

7368 Intelligent Services Access Manager ONT

G-2426G-A Product Guide

3FE-XXXXX-AAAA-TCZZA Issue 1 September 2020

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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.

Documents

Documents are available using ALED or OLCS.

To download a ZIP file package of the customer documentation

'	Navigate to http://customer.nokia.com/s/ and enter your user name and password. If you are a new user and require access to this service, please contact your Nokia sales representative.
2	Select Products.
3	
	Type your product name in the Find and select a product field and click the search icon. Select a product.
4	Click Downloads: ALED to go to the Electronic Delivery: Downloads page.
5	Select Documentation from the list.
6	Select a release from the list.
7	
E	Follow the on-screen directions to download the file.
	OF STEPS

To access individual documents

Individual PDFs of customer documents are also accessible through the Nokia Support Portal website.

1 — Navigate to http://customer.nokia.com/s/ and enter your user name and password. If you are a new user and require access to this service, please contact your Nokia sales representative. 2 — Select Products. 3 – Type your product name in the **Find and select a product** field and click the search icon. Select a product. 4 -Click **Documentation: Doc Center** to go to the product page in the Doc Center. 5 _____ Select a release from the **Release** list and click **SEARCH**. 6 _____ Click on the PDF icon to open or save the file. END OF STEPS -Procedures with options or substeps When there are options in a procedure, they are identified by letters. When there are required substeps 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

Open Adobe Acrobat Reader.

2 _____

Select **Edit**→**Search** from the Acrobat Reader main menu. The Search PDF panel displays.

1 _____

3 —

Enter the search criteria.

4 Select All PDF Documents In.

5 _____

Select the folder in which to search using the list.

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 -

Technical support

For details, refer to the Nokia Support portal (https://customer.nokia.com/support/s/).

For ordering information, contact your Nokia sales representative.

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1 ETSI ONT safety guidelines

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

1.1 Safety instructions

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

1.1.1 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.

1.1.2 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 1-1, "Safety labels" (p. 13) provides sample safety labels on the ONT equipment.

Table 1-1 Safety labe	ls
-----------------------	----

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 and compliant with Japan VCCI emissions standards.

Figure 1-1, "PSE certification" (p. 14) shows the PSE certification.

Figure 1-1 PSE certification

A 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。

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1.2 Safety standards compliance

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

1.2.1 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)

1.2.2 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).

1.2.3 Environmental standard compliance

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

1.2.4 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.

1.2.5 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.

1.2.6 Acoustic noise emission standard compliance

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

1.3 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.

1.3.1 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.

1.3.2 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.

1.3.3 Protective earth

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

1.4 ESD safety guidelines

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



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.

1.5 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.

DANGER Hazard

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.

1.5.1 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 1-2, "Laser product label" (p. 16) shows a laser product label.

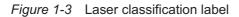
Figure 1-2 Laser product label



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Figure 1-3, "Laser classification label" (p. 18) shows a laser classification label. Laser classification labels may be provided in other languages.

1)



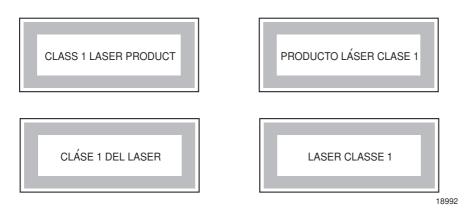


Figure 1-4, "Laser warning labels" (p. 19) shows a laser warning label and an explanatory label for laser products. Labels and warning may be provided in other languages. The explanatory label provides the following information:

- · 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

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Figure 1-4 Laser warning labels



Laser Warning Label

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1.5.2 Transmit optical output

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

1.5.3 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.

1.5.4 Location class

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

1.6 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.

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2 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.

2.1 Environmental labels

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

2.1.1 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.

2.1.2 Environmental related labels

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

Products below Maximum Concentration Value (MCV) label

Figure 2-1, "Products below MCV value label" (p. 22) 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 2-1 Products below MCV value label



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

Figure 2-2, "Products above MCV value label" (p. 22) 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 2-2 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

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September 2020 Issue 1 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 2.2 "Hazardous Substances Table (HST)" (p. 22) for more information.

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

2.3 Other environmental requirements

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

2.3.1 ONT environmental requirements

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

2.3.2 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.

2.3.3 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.

2.3.4 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.

2.3.5 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.

2.3.6 End-of-life collection and treatment

Electronic products bearing or referencing the symbol shown in Figure 2-3, "Recycling/take back/ disposal of product symbol" (p. 23), 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 2-3 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 2-3, "Recycling/take back/disposal of product symbol" (p. 24) 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.

3 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.

3.1 Safety instructions

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

3.1.1 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.

3.1.2 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 3-1, "Safety labels" (p. 25) 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.

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Figure 3-1, "Sample safety label on the ONT equipment" (p. 26) shows a sample safety label on the ONT equipment.

Figure 3-1 Sample safety label on the ONT equipment



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3.2 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.

3.2.1 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 A requirements for OLT 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

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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.

3.2.2 Equipment safety standard compliance

The ONT equipment complies with the requirements of UL60950-1, Outdoor ONTs to "Communication Service Equipment" (CSE) and Indoor ONTs to Information Technology Equipment (ITE).

3.2.3 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

3.2.4 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 3-2, "Sample laser product label showing CDRH 21 CFR compliance" (p. 29) shows a laser product label.

Figure 3-2 Sample laser product label showing CDRH 21 CFR compliance



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3.2.5 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.

3.3 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.

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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."

3.3.1 Laser warning labels

The following figures show sample labels related to laser product, classification and warning. Figure 3-3, "Laser product label" (p. 29) shows a laser product label.

Figure 3-3 Laser product label



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Figure 3-4, "Laser classification label" (p. 30) shows a laser classification label. Laser classification labels may be provided in other languages.

Figure 3-4 Laser classification label

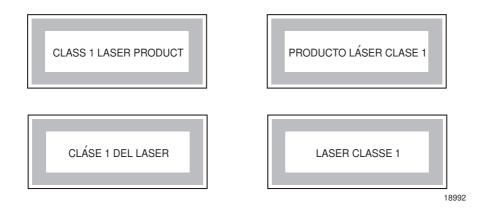
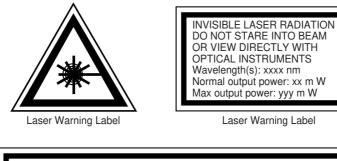


Figure 3-5, "Laser warning labels" (p. 31) shows a laser warning label and an explanatory label for laser products. Explanatory labels may be provided in other languages. The explanatory label provides the following information:

- 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 3-5 Laser warning labels



CLASS 1 LASER PRODUCT
RAYONNEMENT LASER CLASSE 1 RAYONNEMENT LASER INVISIBLE ÉVITER TOUTE EXPOSITION AU FAISCEAU NE PAS DEMONTER. FAIRE APPEL A UN PERSONNELL QUALIFIE
CLASE 1 DEL LASER RADIACION DE LASER INVISIBLE. EVITAR CUALOUIER EXPOSICION AL RAYO LASER. NO DESMONTAR. LLAMAR A PERSONAL AUTORIZADO
INVISIBLE LASER RADIATION PRESENT AT FIBER OPTIC CABLE WHEN NOT CONNECTED. AVOID DIRECT EXPOSURE TO BEAM.

Laser Warning Label

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3.3.2 Laser classification

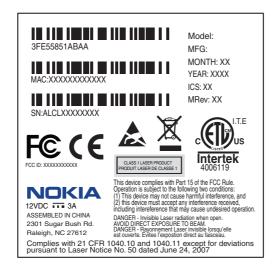
The ONT is classified as a Class 1 laser product based on its transmit optical output.

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

Figure 3-6, "Sample laser product safety label on the ONT equipment" (p. 32) shows a sample laser product safety label on the ONT equipment.

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Figure 3-6 Sample laser product safety label on the ONT equipment



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3.3.3 **Transmit optical output**

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

3.3.4 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.

3.3.5 Location class

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

3.4 Electrical safety guidelines

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



i 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.

3.4.1 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.

3.4.2 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).

3.4.3 Protective earth

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

3.5 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.

3.6 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.

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

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4 G-2426G-A unit data sheet

4.1 Overview

4.1.1 Purpose

4.1.2 Contents

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4.2 G-2426G-A part numbers and identification

Table 4-1, "Identification of G-2426G-A indoor ONTs" (p. 35) provides part numbers and identification information for the G-2426G-A indoor ONT.

Table 4-1 Identification of G-2426G-A indoor ONTs

Ordering kit part number	Provisioning number	Description	CLEI Code	CPR	ECI/ Bar code
3FE 49220 AA	3FE 49241 AA	G-2426G-A,,US Plug,GPON ONT,. Supports 2 POTS port,4 x GE UNI, WIFI 6 2+2 Includes one USB 3.0, 12 V wall-mounted power adapter with US input plug and a 256 MB Flash	_	_	—
3FE 49220 BA	3FE 49241 BA	G-2426G-A ,EU Plug,GPON ONT. Supports 2 POTS port,4 x GE UNI, WIFI 6 2+2 Includes one USB 3.0, 12 V wall-mounted power adapter with 2-pin EU input plug and a 256 MB Flash		_	—

Table 4-1 Identification of G-2426G-A indoor ONTs (continued)

Ordering kit part number	Provisioning number	Description	CLEI Code	CPR	ECI/ Bar code
3FE 49220 BB Customer specific variant	3FE 49241 BB	G-2426G-A, EU Plug,GPON ONT. Supports 2 POTS port,4xGE UNI, WIFI 6 2+2 Includes one USB 3.0, 12 V wall-mounted power adapter with 2-pin EU input plug and a 512 MB Flash	_		—
3FE 49220 CA	3FE 49241 BA	G-2426G-A, UK Plug,GPON ONT. Supports 2 POTS port, 4 x GE UNI, WIFI 6 2+2 Includes one USB 3.0, 12 V wall-mounted power adapter with 3-pin UK input plug and a 256 MB Flash	_	_	—

Table 4-2, "G-2426G-A, dimension data specifications" (p. 36) lists the dimension data specifications for G-2426G-A, indoor ONT

Table 4-2 G-2426G-A, dimension data specifications

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)	64 per radio, 128 per device, no mesh support.
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

Table 4-3, "G-2426G-A power supply ordering information" (p. 37) provides the power supply information for the G-2426G-A ONT. For more information on power supplies, see the **7368 ISAM ONT Power Supply and UPS Guide**. The power consumption is less than 24 W.

Table 4-3 G-2426G-A power supply ordering information

ONT part numbers	Power model (Model No./Manufacture Part Number)	Power information	Customer category or country compliance tested for	Notes
Kit: 33FE 49220 AA EMA: 3FE 49241 AA	FUHUA: UES24WU-120200SPA/ UE200529GWZF2RI RUIDE:RD1202000-C55-154MG/ BR120200-UC6C-LL03	12 V wall mounted AC/DC power adapter, US plug in	ANSI municipality US, UL/CB certified,	2-pin US input plug
KIT: 3FE 49220 BA EMA: 3FE 49241 BA	FUHUA:UES24WV-120200SPA/ UE200529GWZF1RI RUIDE: RD1202000-C55-154OG/ BR120200-EC6C-LL03	12 V wall mounted AC/DC power adapter, EU plug in	Europe, CE certified	2-pin EUinput plug
KIT: 3FE 49220 BB EMA: 3FE 49241 BB	FUHUA:UES24WV-120200SPA/ UE200529GWZF1RI RUIDE: RD1202000-C55-154OG/ BR120200-EC6C-LL03	12 V wall mounted AC/DC power adapter, EU plug in	Europe, CE certified	2-pin EU input plug
KIT: 3FE 49220 CA EMA: 3FE 49241 BA	FUHUA:UES24WB-120200SPA/ UE200529GWZF3RI RUIDE:RD1202000-C55-154YG/ BR120200-YC6C-LL03	12 V wall mounted AC/DC power adapter, UK plug in	UK, CE certified	Dummy 3-pin UK nput plug

4.3 G-2426G-A general description

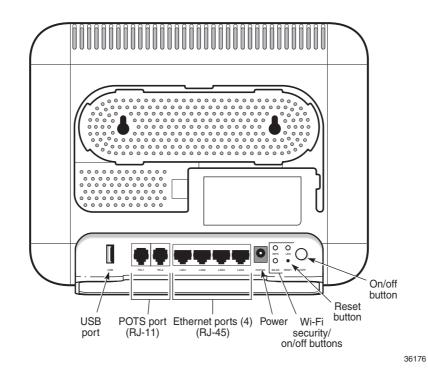
G-2426G-A indoor ONTs provide the subscriber interface for the network by terminating the PON interface and converting it to user interfaces that directly connect to subscriber devices.

The G-2426G-A has built-in Wi-Fi 802.11 b/g/n/ac 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.

"Purpose" (p. 0) shows the G-2426G-A ONT







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

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- Dual-band concurrent 2x2 IEEE 802.11b/g/n 2.4 GHz and 802.11ac MIMO 5 GHz
- Supports 802.11 b/g/n 2x2 Wireless 2.4 GHz MIMO; Channel bandwidth 20, 40 MHz, auto
- Supports 802.11ac 2x2 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
- Two USB 2.0 Type A ports

Note:

The POTS ports and supported USB ports varies for each specific variant. For details, see Table 4-1, "Identification of G-2426G-A indoor ONTs" (p. 35) for the configuration on each specific variant.

- · GPON uplink: G.984 and G.988 series standard compliant
- 256MB NAND Flash with bad block management, 512MB DDR3 RAM, pin2pin compatible design for possible upgrade of RAM/Flash
- WLAN on/off push button
- WPS on/off push button
- LEDs 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
- Wavelength: 1490 nm downstream; 1310 nm upstream
- · Supports WBF filter. The GPON ONTs can co-exist with XGSPON ONTs in the same PON
- PHY rate: 300 Mbps for 2.4 G and 867 Mbps for 5 G
- External antennas with 5dBi gain for each
- Optics that support received signal strength indication (RSSI)
- 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: 250mW/24 dBm (2.4 GHz); 500 mW/27 dBm (5GHz)
- Maximum effective isotropic radiated power (EIRP):
 - 5dBi external antenna: 800mW/29dBm (2.4GHz);1600mW/32dBm (5GHz)
 - 3dBi internal antenna: 500mW/27dBm (2.4GHz);1000mW/30dBm (5GHz)
- Bridged mode or routed mode per LAN port
- TR-069 support
- 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 Web GUI configuration
- Performance monitoring and alarm reporting
- Remote software image downloading and activation
- IP/MAC/URL filter
- Multi-level firewall and ACL
- Econet ONT in mainstream

4.3.1 TR-069 parameter support

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

- Host object
- Port forwarding
- · Optical parameters
- · Object support for optical parameters
- · Statistics and troubleshooting
- · Diagnostic parameter
- Component parameter (TR157)

Host object support

Nokia – Proprietary and Confidential Use pursuant to applicable agreements 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 7-32, "Port Forwarding parameters" (p. 137) in Chapter 7, "Configure a G-2426G-A 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 7-6, "Optics Module Status parameters" (p. 83) in Chapter 7, "Configure a G-2426G-A indoor ONT".

Object support for WiFi 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 7-13, "Wireless (2.4GHz) parameters" (p. 99) and Table 7-14, "Wireless (5GHz) parameters" (p. 102) in Chapter 7, "Configure a G-2426G-A indoor ONT".

Statistics and troubleshooting support

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

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 7.56 "Diagnosing WAN connections" (p. 163) in Chapter 7, "Configure a G-2426G-A indoor ONT".

4.3.2 TR69 authentication using TLS and CA certificates

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

4.3.3 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.

4.3.4 TR-104 voice-related alarms

The G-2426G-A 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

4.3.5 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

4.3.6 TR-111 support

The G-2426G-A 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.

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.

4.3.7 **TR-157 support**

The ONT can support LXC container for third party software component. 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}

4.4 G-2426G-A software and installation feature support

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

- Chapter 5, "Install a G-2426G-A indoor ONT"
- Chapter 6, "Replace a G-2426G-A indoor ONT"

For information on the following topics, see the **7368 ISAM 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

4.5 G-2426G-A interfaces and interface capacity

Table 4-4, "G-2426G-A indoor ONT interface connection capacity" (p. 44) describes the supported interfaces and interface capacity for G-2426G-A indoor ONTs.

Table 1 1	C 242CC A indeer ONT interface of	
1able 4-4	G-2426G-A indoor ONT interface co	onnection capacity

ONT type and	Maximum 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-A ¹	2	—	4	—	—	—	—	—	1

Notes:

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

4.5.1 G-2426G-A connections and components

"G-2426G-A connections and components" (p. 0) shows the physical connections for G-2426G-A indoor ONTs. There are two types of G-2426G-A ONTs, one supports two USB ports and another one without USB.

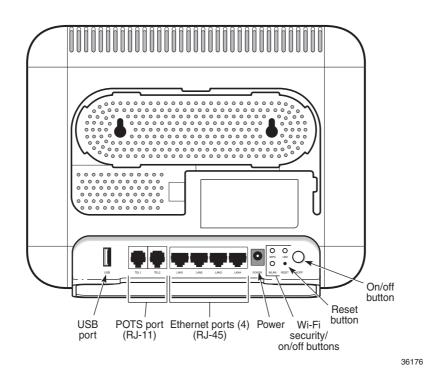


Table 4-5, "G-2426G-A indoor ONT physical connections" (p. 45) describes the physical connections for G-2426G-A indoor ONTs.

Connection ¹	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. Accessible through a 2mm pin hole.
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 for 2.4GHz and 5GHz.
LED button	LED	The LED button turns the LED indicators on or off.
On/Off button	ON/OFF	This button turns the ONT on or off.
USB port	USB	This connection is provided through 1 USB 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 4-5 G-2426G-A indoor ONT physical connections

Notes:

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

4.6 G-2426G-A LEDs

Figure 4-2, "G-2426G-A indoor ONT LEDs" (p. 46) shows the G-2426G-A indoor ONT LEDs.

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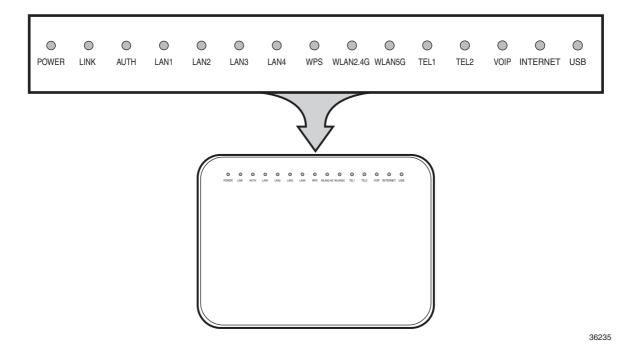


Table 4-6, "G-2426G-A indoor ONT LED descriptions" (p. 46) provides LED descriptions for G-2426G-A indoor ONTs.

Table 4-6	G-2426G-A indoor ONT LED descriptions
-----------	---------------------------------------

Indicator	LED color and behavior	LED behavior description
Power	Green solid Red solid Off	Power on Light failed on startup (for example corrupt flash), or self test failed on startup, or self test failed during regular operation or when executed over OMCI Power off
Link	Green solid Off	GPON link between ONT and OLT is operating normally GPON link is down or no link is connected
Auth	Off Green solid Green flashing	Fiber is not connected or no power is received to the ONT ONT is configured on the OLT and is in service (UP) ONT is in the process of ranging or synchronizing over the OLT
LAN 1 to 4	Green solid Green flashing Off	ONT is connected to the associated LAN port (includes devices with wake-on-LAN capability where a slight voltage is supplied to an Ethernet connection) LAN activity is present ONT power is off or Ethernet is not connected

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Table 4-6	G-2426G-A	indoor ONT	I FD descr	intions	(continued)
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Indicator	LED color and behavior	LED behavior description
TEL 1 to 2	Green solid Green flashing Off	Phone is off hook. Phone is in 'call in' or 'talking' condition All phones are on hook
VOIP	Green solid Off	VoIP service is built up and can provide service VoIP service is not built up or out of service
WPS	Green solid Green flashing Red solid Off	WiFi protected setup link is up (negotiation and auto-configuration successful) WiFi protected setup link activity (negotiation and auto-configuration ongoing) WiFi protected setup processing exception or multiple peers using WPS simultaneously WiFi protected setup link down or no link connected (negotiation has not started or has failed)
WLAN 2.4 GHz	Green solid Green flashing Off	WLAN link is enabled in 2.4 GHz Traffic is passing through the WLAN link WLAN link is disabled or no link is connected
WLAN 5 GHz	Green solid Green flashing Off	WLAN link is enabled in 5 GHz Traffic is passing through the WLAN link WLAN link is disabled or no link is connected
USB	Green solid Green flashing Off	At least one device is connected to the USB port There is traffic activity on at least one device connected to the USB port No device is connected to the USB port
INTERNET	Green solid Green flashing Off	 HSI WAN is connected: a) the device has an IP address assigned from IPCP, DHCP, or static, and no traffic has been detected; b) the session is dropped due to idle timeout but the PON link is still present, or transmit and receive traffic is ongoing. PPPoE or DHCP connection is in progress. HSI WAN is not connected: a) there is no physical interface connection; b) the device is in bridged mode without an assigned IP address; c) the session has been dropped for reasons other than idle timeout.

4.7 G-2426G-A detailed specifications

Table 4-7, "G-2426G-A indoor ONT physical specifications" (p. 47) lists the physical specifications for G-2426G-A indoor ONTs.

Table 4-7 G-2426G-A indoor ONT physical specifications

Description	Specification
Length (with internal antenna)	245 mm
Width (with internal antenna)(195 mm
Height (with internal antenna)	80 mm
Weight [within ± 0.5 lb (0.23 kg)] (net weight of ONT) (with internal antenna)	1.05 lbs (480 g)

Table 4-8, "G-2426G-A indoor ONT power consumption specifications" (p. 47) lists the power consumption specifications for G-2426G-A indoor ONT.

Table 4-8	G-2426G-A	indoor O	NT po	wer consum	ption s	specifications

Mnemonic	Maximum power (Not to exceed)	Condition	Minimum power	Condition
G-2426G-A ¹	24 W	1 POTS off-hook, 4 10/100/1000 Base-T Ethernet, Wi-Fi operational, USB operational	3.6 W	1 POTS on-hook, other interfaces/services not provisioned

Notes:

1. The units without USB have lower power consumption. The minimum power consumption for ONT without USB is 18W.

Table 4-9, "G-2426G-A indoor ONT environmental specifications" (p. 48) lists the environmental specifications for G-2426G-A indoor ONT.

Table 4-9	G-2426G-A 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)	

4.8 G-2426G-A GEM ports and T-CONTs

Table 4-10, "G-2426G-A indoor ONT capacity for GEM ports and T-CONTs" (p. 48) 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 4-10	G-2426G-A indoor ONT	capacity for GEM	ports and T-CONTs
	• = · = • • • · · · · • • • • • • • • •		

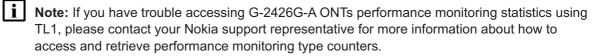
ONT or MDU	Maximum	Notes
Package P ONTs		
GEM ports per indoor or outdoor ONT	256	256 are present; 254 are available, and 2 are reserved for multicast and debugging
T-CONTs per indoor or outdoor ONT	32	32 are present; 31 are available, and 1 is reserved for OMCI

4.9 G-2426G-A performance monitoring statistics

The following section identifies the supported performance monitoring statistics for G-2426G-A 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:

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- Table 4-11, "Package S ONTs ONTENET performance monitoring statistics" (p. 48) provides statistics for ONTENET type counters
- Table 4-12, "Package S ONTs ONTL2UNI performance monitoring statistics" (p. 49) provides statistics for ONTL2UNI type counters
- Table 4-13, "Package S ONTS PONONTTC, PONONTMCTC, PONONTTCHSI, PONONTTCCES, PONONTTCFLOW, PONONTTCVOIP performance monitoring statistics" (p. 50) provides statistics for PONONTTC, PONONTMCTC, PONONTTCHSI, PONONTTCCES, PONONTTCFLOW, and PONONTTCVOIP type counters
- Table 4-14, "Package S ONTs PONONTTC aggregate performance monitoring statistics" (p. 50) provides statistics for PONONTTC aggregate type counters



ONT	ONTE	ONTENET statistics												
	FCSE	EC	ГС	RBO	SCF	MCF	DT	IMTE	CSE	AE	IMRE	FTL	TBO	SQE
G-2426G-A ¹	✓	√	\checkmark	✓	√	✓	√	✓	1	\checkmark	\checkmark	✓ ²	\checkmark	√

Table 4-11 Package S ONTs ONTENET performance monitoring statistics

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.

ONT	ONTL2U	ONTL2UNI statistics									
	FRAMES	BYTES	MCFRAMES	DSDRPDFRMS	USDRPDFRMS	USFRAMES	DSFRAMES	USBYTES	DSBYTES	USMCFRAMES	DSMCFRAMES
G-2426G-A ¹	✓	\checkmark	~	1	1	1	✓	~	✓	✓	\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 4-13 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-A ¹	1	1	1	1	√	—

Notes:

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

ONT	PONONTTC (aggregate) statistics					
	TXBLOCKS	TXFRAGS	RXBLOCKS	RXFRAGS	LOSTFRAGS	BADGEMHDRS
G-2426G-A ¹	\checkmark	\checkmark	✓	✓	✓	_

Notes:

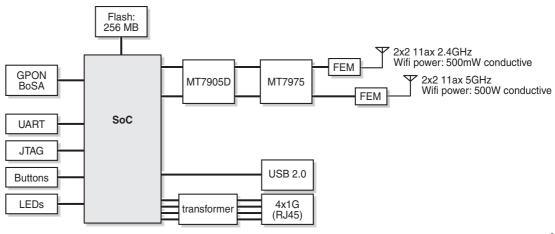
1. A 5 second polling window limitation exists on the ONT, therefore the margin of error for each 15-min window is 5 seconds

4.10 G-2426G-A functional blocks

G-2426G-A 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 two RJ-11 POTS port. These ONTs also feature fiber optic, USB, and power connectors.

Figure 4-3, "G-2426G-A ONT functional block" (p. 51) shows the functional blocks for G-2426G-A indoor ONT.

Figure 4-3 G-2426G-A ONT functional block



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4.11 G-2426G-A standards compliance

G-2426G-A 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 ac/b/g/n for Wi-Fi
- ITU-T G.711, G.722, G.723, G.726, G.729
- SIP RFC 3261

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4.11.1 Energy-related products standby and off modes compliance

Hereby, Nokia declares that the G-2426G-A 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-A ONTS gualify as equipment with high network availability (HiNA) functionality. Since the main purpose of G-2426G-A 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 4.5 "G-2426G-A interfaces and interface capacity" (p. 43) in this chapter.

For information about power consumption, see 4.7 "G-2426G-A detailed specifications" (p. 47) in this chapter.

4.11.2 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.

4.11.3 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.

CAUTION Service Disruption

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

4.12 G-2426G-A special considerations

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

4.12.1 Wi-Fi service

G-2426G-A 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-A 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
- 4 internal antennas: 2 for 2.4G and 2 for 5G

Wi-Fi standards and certifications

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

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

Wi-Fi GUI features

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

4.12.2 G-2426G-A ONT considerations and limitations

Table 4-15, "G-2426G-A ONT considerations and limitations" (p. 54) lists the considerations and limitations for Package P G-2426G-A ONTs.

Table 4-15 G-2426G-A ONT considerations and limitations

Considerations and limitations

1)

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 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

5 Install a G-2426G-A indoor ONT

5.1 Overview

5.1.1 Purpose

5.1.2 Contents

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5.2 Purpose

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

5.3 General

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

5.4 Prerequisites

You need the following items before beginning the installation:

• all required cables

5.5 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

Safety information 5.6

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.



Equipment Damage

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



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 4, "G-2426G-A unit data sheet" for the ٠ temperature ranges of these ONTs.

5.7 **Procedure**

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

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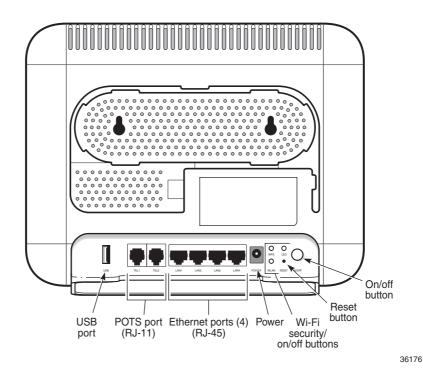
Place the indoor ONT unit on a flat surface, such as a desk or shelf.

Note: The G-2426G-A 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 5-1, "G-2426G-A ONT connections" (p. 56).





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



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 to the SC/APC connector on the bottom of the ONT.



i 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.

6

Connect the power cable to the power connector.

7	

Power up the ONT unit by using the power switch.

8

If used, enable the Wi-Fi service.

- a. Locate the WLAN button on the ONT; see Figure 5-1, "G-2426G-A ONT connections" (p. 57) for location of the WLAN button.
- b. Press the WLAN button to change the status of the Wi-Fi service.
- 9

Verify the ONT LEDs, voltage status, and optical signal levels; see the 7368 Hardware and Cabling Installation Guide.

10

Activate and test the services; see the 7368 Hardware and Cabling Installation Guide.

11

If used, configure the SLID; see the 7368 ISAM ONT Configuration, Management, and Troubleshooting Guide.



12 –

If necessary, reset the ONT.

- a. Locate the Reset button on a G-2426G-A indoor ONT as shown in Figure 5-1, "G-2426G-A ONT connections" (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

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6 Replace a G-2426G-A indoor ONT

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6.2 Purpose

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

6.3 General

The steps listed in this chapter describe mounting and cabling for a G-2426G-A 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 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

Safety information 6.6

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.



Equipment Damage

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



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 4, "G-2426G-A unit data sheet" for the temperature ranges of these ONTs.

6.7 **Procedure**

Use this procedure to replace a G-2426G-A 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.

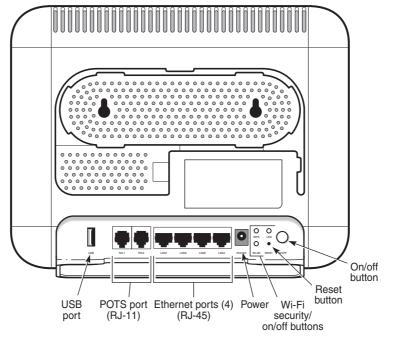
Example:

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

2

If used, disable the Wi-Fi service by pressing the WLAN button; see Figure 6-1, "G-2426G-A indoor ONT connections" (p. 62) for the location of the WLAN button.

Figure 6-1 G-2426G-A indoor ONT connections



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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 6-1, "G-2426G-A indoor ONT connections" (p. 63) for the connector locations on the G-2426G-A 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 6-1, "G-2426G-A indoor ONT connections" (p. 63) 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 6-1, "G-2426G-A indoor ONT connections" (p. 63) 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 **7368 ISAM ONT Configuration, Management, and Troubleshooting Guide** for more information about fiber optic handling, inspection, and cleaning.

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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 into the SC/APC connector on the bottom of the ONT.



i 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 6-1, "G-2426G-A indoor ONT connections" (p. 63) for the location of the WLAN button.

14 -

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If used, configure the SLID; see the 7368 ISAM 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 **7368 Hardware and** Cabling Installation Guide.

16 -

Activate and test the services; see the **7368 Hardware and Cabling Installation Guide**.

17 –

If necessary, reset the ONT.

- a. Locate the Reset button on a G-2426G-A indoor ONT as shown in Figure 6-1, "G-2426G-A indoor ONT connections" (p. 63).
- 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

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7 Configure a G-2426G-A indoor ONT

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GUI configuration

7.2 General configuration

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

For HTTP configuration procedures, please refer to the **7368 ISAM ONT Configuration**, **Management**, and **Troubleshooting Guide**.

7.3 HGU mode GUI configuration

Use the procedures below to use the web-based GUI for the G-2426G-A 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-A ONTs support TLSv1.2 for WEBGUI (HTTPS).

7.4 Log in to the web-based GUI

Use the procedure below to login to the web-based GUI for the G-2426G-A.

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.

2

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.

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.

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Figure 7-1 Web login page

	GPON Ho	me Gateway	
	Username		
	Password		
	Login	Reset	
i		ent username and password, pres lues for the username and passwo	
3 — Clic	k Login . The Device Informa	ation page displays.	

i Note: To help protect the security of your Internet connection, the application displays a pop-up reminder to change both the Wi-Fi password and the ONT password. To increase password security, use a minimum of 10 characters, consisting of a mix of numbers and upper and lower case letters.

END OF STEPS

Viewing device information and connection status

7.5 Overview

7.5.1 Purpose

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

7.5.2 Contents

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7.6 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		
Device Information	Device Name	G-2426G-A
LAN Status WAN Status	Vendor	Nokia
WAN Status IPv6	Serial Number	ALCLB39D3FB9
Home Networking	Hardware Version	3FE48299BAAA
Optics Module Status Statistics	Boot Version	U-Boot Dec-31-201612:00:00
Voice Information	Software Version	3FE49226HJHK66
Network	Chipset	MTK7528
 Security Application 	Device Running Time	3 days 0 hours 35 minutes 38 seconds
Maintenance		Refresh
RG Troubleshooting		

Figure 7-2 Device Information page



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

This block is accurate upon login, but it is static; click **Refresh** to update the information.

Table 7-1 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	

Table 7-1 Device Information parameters (continued)

Field	Description
Device Running Time	Amount of time the device has run since last reset in hours, minutes, and seconds

2 –

Click **Refresh** to update the displayed information.

END OF STEPS -

7.7 Viewing LAN status

1 -

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

Figure 7-3 LAN Status page

	GPON Home Gateway	Logout
	Status>LAN Status	
Status Device Information	Wireless Information	
LAN Status	Wireless Status	an
WAN Status	Wireless Channel	Ŧ
WAN Status IPv6 Home Networking	SSID1 Name 😞	ALHN-3FB9
Optics Module Status	Wireless Encryption Status	WPA/WPA2-PSK
Statistics	Wireless Rx Packets	0
Voice Information	Wireless Tx Packets	٥
Network	Wireless Rx Bytes	0
Security	Wireless Tx Bytes	0
Application Maintenance	Power Transmission(mW)	100

Ethernet Information

Ethernet Status	Up
Ethernet IP Address	192 168 1 254
Ethernet Subnet Mask	255.255.255.0
Ethernet MAC Address	18.45 93.2f.5b 00
Ethernet Rx Packets	127237
Ethernet Tx Packets	176187
Ethernet Rx Bytes	10995145
Ethernet Tx Bytes	18022645

Information	LAN1	LAN2	LAN3	LAN4
Status	Up	Up	Down	Цр
Duplex Mode	Full-duplex	Full-duplex	Half-duplex	Full-duple:
Max Bit Rate	1000	1000	Aiuto	1000
Errors Received	0	0	0	0
Errors Sent)) 0 ((0	0	0
Packets Received	18312	18312	0	90613
Packets Sent	30142	30142	0	115903
Bytes Received	1171968	1171968	0	8651209
Bytes Sent	3479419	3479419	0	11063807

Refresh

Table 7-2 LAN Status parameters

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

7.8 Viewing WAN status

1 -

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

	GPON Home Gateway	Logout	
	Status>WAN Status		
Status Device Information	WAN Connection List	1_VOIP_TR069_INTERNET_R_VID_881	~
LAN Status	Access Type	access_dev1	
WAN Status WAN Status IPv6	Connection Mode	Dynamic DHCP	
Home Networking	Enable/Disable		
Optics Module Status	VLAN	881	
Statistics Voice Information	WAN Link Status	Linking	
Network	PON Link Status	Up	
Security	Tx Packets		
Application	Rx Packets		
Maintenance RG Troubleshooting	Tx Dropped		
	Rx Dropped		
	Err Packets		
		Refresh	

Table 7-3 WAN 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.		
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	Whether the WAN link is up or down		
IPv4 Address	IP Address of the ONT		
Netmask	Network mask		
Gateway	Gateway address		

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Table 7-3 WAN Status parameters (continued)

Field	Description	
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	
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

7.9 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 the following information:



	GPON Home Gatewa	у	Logout	
	Status>WAN Status IPv6			
Status Device Information LAN Status WAN Status WAN Status IPv6 Home Networking Optics Module Status Statistics Voice Information Network Security Security	WAN Connection List Enable/Disable VLAN WAN Link Status IPv6 address IPv6 Prefix IPv6 Gateway Primary DNS			~
Application Maintenance RG Troubleshooting	Second DNS PON Link Status Tx Packets Rx Packets Tx Dropped Rx Dropped Err Packets	Up 0 0 0 0 0	efresh	

Figure 7-5 WAN Status IPv6 page

Table 7-4	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			

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Table 7-4 WAN Status IPv6 parameters (continued)

Field	Description			
IPv6 Gateway	IPv6 gateway address			
Primary DNS	Primary Domain Name Server			
Second DNS	Secondary Domain Name Server			
PON Link Status	Whether 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

7.10 Viewing home networking information

1

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

	GPON Ho	GPON Home Gateway			Logout			
	Status>Home Netwo	orking						
Status								
Device Information	Local Inte	erface						
LAN Status	с	Connection Type			Connected Devices		Setting	
WAN Status		Ethernet		1				
WAN Status IPv6		Ethernet		•				
Home Networking		Wireless (2.4GHz)		0		Setting		
Optics Module Status		Wireless (5GHz)		0		Setting		
Statistics								
Voice Information	Wireless	Settings (2.4	GHz)					
Network								
Security	Network Name	ALHN-3FB9		ALHN-3FB9-2	ALHN-3FB	9-3	ALHN-3FB9-4	
Application	Access Point	18:45:93:2f:5b:09	1:	a:45:93:1f:5b:09	1a:45:93:2f:5	5b:09	1a:45:93:3f:5b:09	
0								

Figure 7-6 Home Networking page

Wireless Settings (5GHz)

Network Name	ALHN-3FB9-5	ALHN-3FB9-6	ALHN-3FB9-7	ALHN-3FB9-8
Access Point	18:45:93:2f:5b:0d	1a:45:93:2c:5b:0d	1a:45:93:2d:5b:0d	1a:45:93:2e:5b:0d

Local Devices

Status	Connection Type	Device Name	IPv4 Address	Hardware Address	IP Address Allocation	Lease Remaining	Last Active Time	Dele
Active	Ethernet	DESKTOP- P94AMP8	192.168.1.64	00:0e:c6:d2:5c:96	DHCP	23 hours 22 min 26 sec	31/12/1969 07:02:03 PM	Dele

Routing Domain Details

	Domain Name	WAN Name	No of IP	IP Range	LAN List	Delete
			Refresh			
<						3

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Maintenance
RG Troubleshooting

Table 7-5 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 (2.4GI	Hz and 5GHz)					
Network Name	Name of the wireless network					
Access Point	Hexadecimal address of the wireless access point					
Local Devices						
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.					
Routing Domain Details						
Table entry	Shows the domain name, WAN name, number of IPs, IP range, and LAN list.					

You can:

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

END OF STEPS

7.11 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 the following information:

	GPON Home Gateway	gout
	Status>Optics Module Status	
Status	Laser Bias Current (ONT ANI-ONT-Side Optical Measurements):	10212 uA
Device Information	Laser bias ourient (on part-one optical measurements).	10212 07
LAN Status	Optics Module Voltage (ONT ANI-ONT-Side Optical Measurements):	3187000 uV
WAN Status	Optics Module Temperature (ONT ANI-ONT-Side Optical Measurements):	36.10 °C
WAN Status IPv6	Rx Optics Signal Level at 1490 nm (ONT ANI-ONT-Side Optical	-18.90 dBm
Home Networking	Measurements):	10.00 0.011
Optics Module Status	Tx Optics Signal Level at 1310 nm (ONT ANI-ONT-Side Optical	2.02 dBm
Statistics	Measurements):	
Voice Information	Lower (ONT ANI-ONT-Side Optical Measurements-Optical Threshold):	-29.20 dBm
Network	Hanse (ONT ANI ONT Cide Ontion Managements Ontion Theory and	C 00 dD
Security	Upper (ONT ANI-ONT-Side Optical Measurements-Optical Threshold):	-5.99 dBm
Application	Refresh	
Maintenance		
RG Troubleshooting		

Figure 7-7 Optics Module Status page

Table 7-6 Optics 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

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2

Click Refresh to display up-to-date information.

END OF STEPS

7.12 Viewing statistics

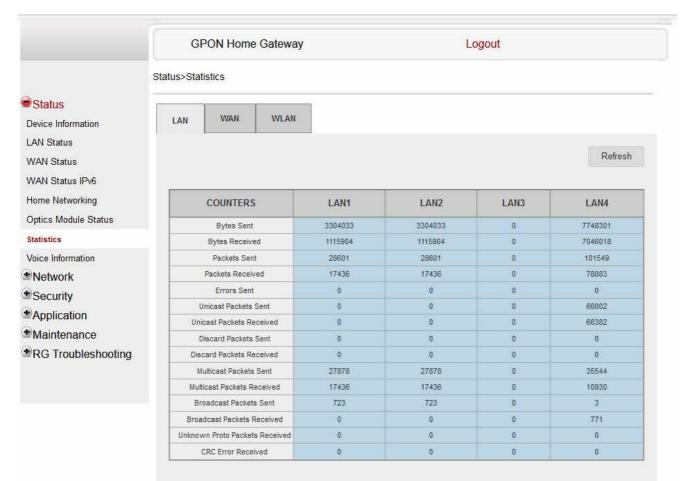
1 –

Click **Status**→**Statistics** from the left pane in the GPON Home Gateway page. The Statistics page displays.

Statistics are available for LAN ports, WAN ports, and WLAN ports.

Select the LAN tab, WAN tab or WLAN tab to view the respective ports.

Figure 7-8 LAN Statistics page



	GPON Home Gatewa	ау	Logout	
	Status>Statistics			
Status				
Device Information	LAN WAN WLAN	4		
LAN Status				
WAN Status				Refresh
WAN Status IPv6				
Home Networking	COUNTERS	1_VOIP_TR069_INTERNET_R_VID_881	2_INTERNET_R_VID_1081	3_OTHER_R_VID_981
Optics Module Status	Bytes Sent	9502	9190	9190
Statistics	Bytes Received	0	0	0
Voice Information	Packets Sent	35	34	34
Network	Packets Received	0	0	0
Security	Errors Sent	0	0	0
Application	Errors Received	0	0	0
Maintenance	Unicast Packets Sent	35	34	34
and the second secon	Unicast Packets Received	0	0	0
RG Troubleshooting	Discard Packets Sent	0	0	0
	Discard Packets Received	0	0	0
	Broadcast Packets Sent	0	0	0
	Broadcast Packets Received	0	0	0
	Unknown Proto Packets Received	0	0	0
	Rx Drops	0	0	0
	Tx Drops	0	0	0
	Rx Errors	0	0	0
	Tx Errors	0	0	0

Figure 7-9 WAN Statistics page

Figure 7-10 WLAN Statistics page

	GPON Home Gateway			Logout	
	Status>Statistics				
Status		- T			
Device Information	LAN WAN	WLAN			
LAN Status					
WAN Status				F	Refresh
WAN Status IPv6					
Home Networking	COUNT	-De	2.4GHZ	5GHZ	
Optics Module Status	COUNT	ERS	ALHN-F14E	ALHN-F14E-5	
Statistics	Bytes Sent		0	0	
Voice Information	Bytes Re	ceived	0	0	
	Packets	Sent	0	0	
Network	Packets R	eceived	0	0	
Security	Errors	Sent	0	0	
Application	Discard Pac	kets Sent	0	0	
Maintenance	Discard Packe	ts Received	0	0	
	Rx Dr	ops	0	0	
RG Troubleshooting	Tx Dr	ops	0	0	

END OF STEPS

7.13 Viewing voice information

1

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

	GPON Home Gatewa	y Logou	t
	Status>Voice Information		
Status	Line	Line 1	~
Device Information			
_AN Status	Line Status	Disabled	
WAN Status	Soft Switch		
WAN Status IPv6			
lome Networking	Phone Number		
Optics Module Status			
Statistics	Register Status		
loice Information	Register Status		
Network	Register Error Code		
Security	Register Error Reason		
Application			
Maintenance			
RG Troubleshooting	User Agent IP		
······································		Refresh	

Figure 7-11 Voice Information page

Table 7-7 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
Soft Switch	Quiescent Disabled The default is Disabled Proxy IP address; blank if the line is not registered

aft

Table 7-7 Voice Information parameters (continued)

Field	Description
Phone number	Phone number configured for a telephone line 1; For example, +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
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



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Network configuration

7.14 Overview

7.14.1 Purpose

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

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7.15 Configuring LAN

1

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

Figure 7-12 LAN page

*Status	Network>LAN		
<u> </u>			
Network			
	Port Mode		
LAN	All Ports to Bridge Mode		
LAN_IPv6	Port1	Route Mode	~
WAN			
WAN DHCP	Port2	Route Mode	~
Wireless (2.4GHz)	Port3	Route Mode	×
Wireless (5GHz)	Port4	Route Mode	~
Wireless Schedule		Save	
IP Routing DNS			
TR-069		192.168.1.254	
GRE Tunnel	IPv4 Address		
US Classifier	Subnet Mask	255.255.255.0	
QoS Config	DHCP Enable		
Security	DHCP Start IP Address	192.168.1.64	1
Application	DHCP End IP Address	192.168.1.253	
Maintenance			
RG Troubleshooting	DHCP Lease Time	1440	
		(2~129600 mins, or 0 means 1 day)mins.	
	Primary DNS	1	
	Consider DNC		
	Secondary DNS		
		Save Refresh	

2

Configure the following LAN parameters:

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Table 7-8 LAN parameters

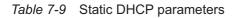
Field	Description	
Port Mode		
All Ports to Bridge Mode Select this checkbox to set all ports to bridge mode.		
Port 1 - 4 Select the port mode for each port and click Save:		
	Route Mode	
	• Bridge Mode	
IPv4 Address	Enter the IP address of the ONT.	
Subnet Mask	Enter the subnet mask of the ONT.	
DHCP 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:



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

5 _____

Click Save.

6 _____

Click Add.

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

END OF STEPS -

7.16 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	8		
Network	IPv6 LAN Host Config	guration	
LAN	DNS Server	HGWProxy	~
LAN_IPv6	Prefix Config	WANConnection	~
WAN	Freix Conlig		
WAN DHCP	Interface		~
Wireless (2.4GHz)			
Wireless (5GHz)	DHCPv6 Server Pool		
Wireless Schedule		0.000	
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 DHCP		
Security			
	Maximum interval for periodic RA	600	
Application	Maximum interval for periodic RA messages	600 seconds	
Security Application Maintenance RG Troubleshooting		106-10	

2

Configure the following parameters:

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Save/Apply

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Table 7-10 LAN IPv6 parameters

Field	Description
IPv6 LAN Host Configuration	
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 -

Click Save/Apply.

END OF STEPS -

Configuring WAN 7.17

1

Click Network→WAN from the left pane in the GPON Home Gateway page. The WAN page displays.

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Figure 7-14 WAN page

	GPON Home Gateway	Logout	
	Network>WAN		
* Status	WAN Connection List	1_VOIP_TR069_INTERNET_R_VID_881	~
Network			
LAN	Connection Type	●IPoE OPPPoE	
LAN_IPv6	IP mode	IPv4	~
WAN			
WAN DHCP	Enable/Disable		
Wireless (2.4GHz)	NAT		
Wireless (5GHz)	Service		
Wireless Schedule			
IP Routing	Enable VLAN		
DNS	VLAN ID	881	
TR-069	VLAN PRI	0	
GRE Tunnel		21/02	
US Classifier	WAN IP Mode	DHCP	~
QoS Config	Manual DNS		
Security			
Application		Save Delete	
Maintenance		Save Delete	
RG Troubleshooting			

2 -

Configure the following parameters:

Table 7-11 WAN parameters

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.	
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.	

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Table 7-11 WAN parameters (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.	
Manual DNS	Enter the manual Domain Name Server.	

3 —

Click Save.

END OF STEPS -

7.18 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 7-15 WAN DHCP page

	GPON Home Gateway	Logout	
	Network>WAN DHCP		
Status	WAN Connection List	1 VOIP TR069 INTERNET R VID 881	~
Network			
LAN	DHCP Option 50 Persistent		
LAN_IPv6	Enable DHCP Option 60		
WAN	Enable DHCP Option 61	Π	
NAN DHCP			
Wireless (2.4GHz)	Enable DHCP Option 77		
Wireless (5GHz)	Enable DHCP Option 90		
Wireless Schedule		Save Refresh	
P Routing		Save Reliesh	
ONS			
TR-069			
GRE Tunnel			
JS Classifier			
QoS Config			
Security			
Application			
Maintenance			
RG Troubleshooting			

2 -

Configure the following parameters:

Table 7-12 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.

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3 —

Click Save.

END OF STEPS

7.19 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 7-16 Wireless (2.4GHz) page

	GPON Home Gatewa	y Logout	
	Network>Wireless (2.4GHz)		
Status	Enable	P	
Network	Enable		
LAN	Mode	auto(b/g/n/ax)	~
LAN_IPv6	Bandwidth	20MHz	~
WAN	Channel	Auto	
WAN DHCP	chamer		
Wireless (2.4GHz)	Transmitting Power	100%	0
Wireless (5GHz)	WMM	Enable	~
Wireless Schedule			
IP Routing	Enable MU-MIMO	Disable	2
DNS	Total MAX Users	64	
TR-069		3	
GRE Tunnel			
US Classifier	SSID Configur	ation	
QoS Config	SSID Select	SSID1	~
Security			
Application	SSID Name	ALHN-3FB9	

Maintenance

BRG Troubleshooting

SSID Select	SSID1	~
SSID Name	ALHN-3FB9	
Enable SSID	Enable	~
SSID Broadcast	Enable	~
Port Mode	Route	~
Isolation	Disable	~
MAX Users	64	
Encryption Mode	WPA/WPA2 Personal	~
WPA Version	WPA/WPA2	~
WPA Encryption Mode	TKIP/AES	~
WPA Key	******	
	Show password	
Enable WPS	Disable	×
Domain Grouping		
	Save Refresh	

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2 -

Configure the following parameters:

Table 7-13 Wireless (2.4GHz) parameters

Description				
Select this checkbox to enable Wi-Fi.				
Select a Wi-Fi mode from the list:				
• auto (b/g/n)				
• b				
• g				
• n				
• b/g				
• g/n				
Select from:				
• 20 MHz				
• 40 MHz • 20/40 MHz				
Select a channel from the list or select Auto to have the channel automatically assigned.				
Select a percentage for the transmitting power from the list:				
• Low (25%)				
 Medium (50%) High (75%) 				
• Maximum (100%)				
Select Enable or Disable from the list to enable or disable WiFi multimedia.				
Enter the number of total MAX users.				
Select the SSID from the list.				
Enter the SSID name.				
Enable or disable SSID from this list.				
Enable or disable SSID broadcast from this list.				
Select a port mode from the list. Route is the default.				
Enable or disable isolation from this list.				
Enter the number of MAX users.				

Table 7-13 Wireless (2.4GHz) parameters (continued)

Field	Description						
Encryption Mode	Select an encryption mode from the list:						
	WPA/WPA2 Personal						
	WPA/WPA2 Enterprise						
	• WEP						
	• OPEN						
WPA Version	Select a WPA version from the list:						
	• WPA2						
	• WPA/WPA2						
WPA Encryption Mode	Select a WPA encryption mode from the list:						
	• AES						
	• TKIP/AES						
WPA Key	Enter the WPA key.						
Enable WPS	Select Enable or Disable from this list.						
WPS Mode	Select a WPS mode from the list: PBC (Push Button Connect) or PIN (Personal Identification Number)						
Domain Grouping	Select this checkbox to enable domain grouping. When enabled the fields Domain Name, WAN Interface, Number of IP, and LAN List become visible. To know more about configuring the fields, refer to the Domain Grouping section of Table 7-14, "Wireless (5GHz) parameters" (p. 102).						

Notes:

1. When the SSID select, SSID name, password and encryption mode is configured same between 2.4GHz and 5GHz network, the band steering feature is enabled.

3 -

If you have enabled and configured WPS, click **WPS connect**.

4 Click Save.

END OF STEPS -----

7.20 Configuring Wireless 5GHz

1

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

rigu	re 7-17 Wireless (5GHz)	page	
	GPON Home Gatewa	ay Logout	
	Network>Wireless (5GHz)		
Status	Enable		
Network	Bandwidth	80MHz	~
AN AN_IPv6		Auto	~
AN_IFV0	Channel		
AN DHCP	Transmitting Power	100%	~
Vireless (2.4GHz)	WMM	Enable	~
/ireless (5GHz)	Enable MU-MIMO	Disable	~
/ireless Schedule Routing	Total MAX Users	64	
NS R-069	SSID Configu	ration	
GRE Tunnel	SSID Select	SSID5	~
S Classifier	SSID Name	ALHN-3FB9-5	
loS Config	Enable SSID	Enable	~
Security Application	SSID Broadcast	Enable	~
Maintenance	Port Mode	Route	~
RG Troubleshooting	Isolation	Disable	~
	MAX Users	64	
	Encryption Mode	WPA2-AES	~
	WPA Key		
		Show password	
	Enable WPS	Disable	~

Figure 7-17 Wireless (5GHz) page

2

Configure the following parameters:

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Table 7-14 Wireless (5GHz) parameters

Field	Description
Enable	Select this checkbox to enable WiFi.
Bandwidth	Select from: • 20 MHz • 40 MHz • 80 MHz
Channel	Select a channel from the list or select Auto 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 WiFi multimedia.
Total MAX Users	Enter the total number of MAX users.
SSID Configuration	
SSID Select ¹	Select the SSID from the list.
SSID Name	Change the name of the selected SSID.
Enable SSID	Select Enable or Disable SSID 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	Enable or disable isolation from this list.
MAX Users	Enter the number of MAX users.
Encryption Mode	Select an encryption mode from the list: • WPA2-AES • WPA2+WPA • WPA/WPA2 Enterprise • NONE-OPEN
WPA Key	Enter the WPA key.
Enable WPS	Select Enable or Disable from this list.
WPS Mode	Select a WPS mode from the list: PBC (Push Button Connect) or PIN (Personal Identification Number)
Domain Grouping	
Domain Grouping	Select this checkbox to enable domain grouping. The fields Domain Name, Create One New Domain, WAN Interface, Number of IPs and List LAN are available when the Domain Grouping field is enabled.
Domain Name	Select a domain name from the list.
Create One New Domain	Select this checkbox to create a new domain.

Draft

Table 7-14 Wireless (5GHz) parameters (continued)

Field	Description
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.

Notes:

1. When the SSID select, SSID name, password and encryption mode is configured same between 2.4GHz and 5GHz network, the band steering feature is enabled.

If you have enabled and configured WPS, click **WPS connect**.

4 _____

Click Save.

END OF STEPS -

3 —

7.21 Configuring wireless scheduling

1

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

Figure 7-18 Wireless Schedule page

	GPON Home Gateway		Logout	
	Network>Wireless Schedule			
● Status	Wireless Mode			
Network				
LAN	Schedule Function			
LAN_IPv6	Current Time	06/17/1970 07:29:30 PM		
WAN		00/11/19/0 07.29.30 PW		
WAN DHCP				
Wireless (2.4GHz)	Turn off the Wireless sign	al by the following rules		
Wireless (5GHz)	g	g		
Wireless Schedule	Start Er	nd	Recurrence Pattern	
IP Routing				
IF Routing				
DNS				+
				+
DNS				+
DNS TR-069				+
DNS TR-069 GRE Tunnel				+
DNS TR-069 GRE Tunnel US Classifier				+
DNS TR-069 GRE Tunnel US Classifier QoS Config				+
DNS TR-069 GRE Tunnel US Classifier QoS Config Security				+

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.

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
Configuring IP routing

1

7.22

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

Figure 7-19 IP Routing page

		GPO	N Hom	e Gate	way						Logout					
	Network	>IP Ro	uting													
Status	En	able Ro	utina													
Network	LI		uung			0.00										
LAN	De	stination	IP Add	ress												
LAN_IPv6	De	stinatior	n Netma	sk												
WAN	Ga	teway				0.0.	0.0									-1
WAN DHCP		95. 				0.000 A			<u>ka co</u> r			95				
Wireless (2.4GHz)	IP\	IPV4 Interface Forwarding Policy			1_\	VOIP_	TR069_IN	TERN	IEI_R	_VID_88	1			_	~	
Wireless (5GHz)	For				No Policy:-1								р			
Wireless Schedule	ID	Source		Protocol			Source	SExclude			DExclude	Source	Source	SExclude	Dest	De
IP Routing		MAC	MAC Exclude		Exclude	Port	Max		Port	Max		P	Mask		IP	Ma
DNS	<															>
TR-069							- 1	Add								
GRE Tunnel																
US Classifier																
QoS Config																
Security	10	Dautin	Table													
Application		Routing	ion IP Ad	drace	Destinati	on Notma	ack	Catoway	Int	torface	Eonu	arding F	Jolicy	Enable	Dele	ta
Maintenance	-	/esundu	ION IP AG	01855	Desundu	on Neulla	usn	Gateway		terface	FOLM	arung P	oncy	Enable	Dele	le.
RG Troubleshooting																
							- 73									

2

Configure the following parameters:

Table 7-15	IP Routing network 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.			

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Table 7-15 IP Routing network parameters (continued)

Field	Description
IPv4 Interface	Select a WAN connection previously created in the WAN page from the list.
Forwarding Policy	Select a forwarding policy from the list.

3 —

Click Add.

END OF STEPS -

7.23 Configuring DNS

1 -

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

Figure 7-20 DNS page

Security ds/device.lan		GPON Home Gateway			Logout	
Network LAN LAN LAN Domain Name WAN IPv4 Address Wan DHCP Wireless (2.4GHz) Wireless (5GHz) Wireless Schedule Origin Domain IP Routing New Domain TR-069 GRE Tunnel US Classifier QoS Config Domain Name New Domain GRE Tunnel US Classifier QoS Config Domain Name New Domain Maintenance Origin Domain	Netwo	ork>DNS				
Network LAN LAN_IPv6 Domain Name WAN IPv4 Address VAN DHCP Wireless (2.4GHz) Wireless (5GHz) Wireless Schedule Origin Domain IP Routing New Domain TR-069 GRE Tunnel US Classifier OS Config Domain Name New Domain Maintenance Origin Domain New Domain Maintenance		DNS Proxy	⊠Enal	bled	Save	
LAN_IPv6 Domain Name WAN IPv4 Address WAN DHCP Add Wireless (2.4GHz) Add Wireless (5GHz) Origin Domain IP Routing New Domain IP Routing Add GRE Tunnel Add US Classifier Add QoS Config Domain Name Security dsidevice.lan Maintenance New Domain Origin Domain IPv4 Address Maintenance Origin Domain					Curo	
WAN IPv4 Address WAN DHCP Wireless (2.4GHz) Wireless (5GHz) Wireless Schedule Origin Domain IP Routing New Domain ORS TR-069 GRE Tunnel US Classifier QoS Config Domain Name New Domain IP Security Add Maintenance Origin Domain						
WAN DHCP Add Wireless (2.4GHz) Add Wireless (5GHz) Origin Domain IP Routing New Domain DNS Add GRE Tunnel Add US Classifier Origin Domain Name QoS Config Domain Name Security dsidevice.lan Application New Domain Origin Domain Name New Domain US Classifier 192.168.1.254 Operation New Domain	C	Domain Name				
Wireless (2.4GHz) Wireless (5GHz) Wireless Schedule Origin Domain IP Routing New Domain ORS TR-069 GRE Tunnel US Classifier QoS Config Domain Name Security dsldevice.lan Application Maintenance	IF	Pv4 Address				
Wireless (2.4 GHz) Wireless (5GHz) Wireless Schedule Origin Domain IP Routing New Domain New Domain TR-069 GRE Tunnel US Classifier QoS Config Domain Name Add Security Application Maintenance Origin Domain						
Wireless Schedule Origin Domain IP Routing New Domain New Domain TR-069 GRE Tunnel US Classifier QoS Config Domain Name Security Application Maintenance Origin Domain	łz)			Add		
IP Routing DNS TR-069 GRE Tunnel US Classifier QoS Config Security Application Maintenance Origin Domain Origin Domain Origin Domain Mew Domain New Domain) –					
New Domain Add TR-069 Add GRE Tunnel VS Classifier QoS Config Domain Name New Domain Security dsldevice.lan 192.168.1.254 Detector Application Origin Domain New Domain Detector	ule C	Origin Domain				
Diss Add TR-069 Add GRE Tunnel	L.	Now Domain				
GRE Tunnel US Classifier QoS Config Domain Name New Domain IPv4 Address Description Security ds/device.lan Ig2.168.1.254 Description Maintenance Origin Domain New Domain New Domain Defette		vew Domain				
US Classifier QoS Config Domain Name New Domain IPv4 Address Dev Security dsidevice.lan 192.168.1.254 Dev Application Origin Domain Name Development				Add		
QoS Config Domain Name New Domain IPv4 Address Dealer Security ds/device.lan 192.168.1.254 Dealer Application Origin Domain New Domain Dealer						
Security ds/device.lan 192.168.1.254 D Application Origin Domain New Domain Deleter						
Application Maintenance Origin Domain New Domain Delete		Domain Name	New	/ Domain	IPv4 Address	Delete
Maintenance Origin Domain New Domain Delete		dsldevice.lan			192.168.1.254	Delete
RG Troubleshooting	e	Origin Domain		New Domain		Delete
	shooting					
Refresh				Refresh		

2 –

Configure the following parameters:

Table 7-16 DNS parameters

Field	Description	
DNS Proxy	Select the Enabled checkbox to enable DNS proxy and click Save .	
Domain Name	Enter the domain name.	
IPv4 Address	Enter the domain IP address and click Add.	
Origin Domain	Enter the origin domain name.	

Table 7-16 DNS parameters (continued)

Field	Description
New Domain	Associate an origin domain with a new domain and click Add.

END OF STEPS

7.24 Configuring TR-069

1 –

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

Figure 7-21	TR-069	page
-------------	--------	------

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



2 –

Configure the following parameters:

Table 7-17 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 to log in to the auto-configuration server.
Password	Enter the password to log in to the auto-configuration server.
Connect Request Username	Enter the username to log in to the ONT.
Connect Request Password	Enter the password to log in to the ONT.

3 —

Click Save.

END OF STEPS

7.25 Configuring GRE tunnel

1

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

Figure 7-22	GRE Tunnel	page
-------------	------------	------

	GPON Home Gateway	Logout				
	Network>GRE Tunnel					
• Status	Tunnel Name	Create new GRE Tunnel	~			
Network						
LAN	WAN Interface	1_VOIP_TR069_INTERNET_R_VID_881	<u> </u>			
LAN_IPv6	Primary Remote End					
WAN	Secondary Remote End	1	1			
WAN DHCP						
Wireless (2.4GHz)	Connected Remote End					
Wireless (5GHz)	Connectivity Check					
Wireless Schedule	Traffic timeout to start pings	10				
IP Routing		(2 ~ 1024)seconds				
DNS	No. of retries before unreachable	3				
TR-069		(0 ~ 100)times				
GRE Tunnel		Save Delete				
US Classifier						
QoS Config						
Security						
Application						
Maintenance						

2 -

Configure the following parameters:

Table 7-18	GRE Tunne	I parameters

Field	Description
Tunnel Name	Select Create new GRE Tunnel or select an existing tunnel from the list. The tunnel name is automatically assigned by the system. Up to 3 GRE tunnels are supported.
WAN Interface	Select a WAN interface from the list. GRE tunnels can only be created on HSI-enabled WAN interfaces.

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Table 7-18	GRE Tunnel parameters	(continued)

Field	Description
Primary Remote End	Enter an IP address or FQDN that is unique in the system.
Secondary Remote End (optional)	If the primary remote endpoint is down or unreachable, the secondary remote endpoint becomes active, if configured.
	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.
	If both endpoints are unreachable, the GRE tunnel is declared down.
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.

END OF STEPS

7.26 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. The US Classifier page displays.

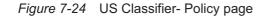
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Figure 7-23 US Classifier

	G	BPON H	o <mark>me</mark> Ga	teway				Logout				
	Network>l	JS Class	ifier									
[●] Status ●Network LAN	[+] Poli [+] Clas [-] Clas		les									
LAN_IPv6 WAN	Policy					~	Classifier					~
WAN DHCP	Interfac	e				~						
Wireless (2.4GHz) Wireless (5GHz)	Source	MAC					Destinatio	on				
Wireless Schedule IP Routing	Source	IP					Destinatio	on IP				
DNS TR-069	Source	Port					Destinatio	on Port				
GRE Tunnel	IP Proto	ocol Type										
US Classifier			(0 - 2	54)								
QoS Config						Save	Reset					
MESH	Namo	Interface	Source	Destination	Source	Destination	Source	Destination	IP	Policy	Classifier	Delete
Security Application	Name	interface	MAC	MAC	IP	IP	Port	Port	Protocol	Policy	Classiller	Delete
Maintenance	<					Refre	esh					3

2

Select the **Policy** tab. All classifier policies are displayed in the policy table in the page.



	GPON	GPON Home Gateway Logout							
	Network>US Cla	assifier							
Status	[-] Policy								
Network	Tunnel Type			4					
AN	runner type		GRI	50					1
AN_IPv6	Tunnel Interfa	ce	No	Funnel					~
/AN			140	unner					
VAN DHCP	VLAN Id		VLAN	Tag	81	00	VLAN Priority		
/ireless (2.4GHz)		(0 - 4093)			(hex)			(0 - 7)	
fireless (5GHz)	IP TOS / DSCI	P	0						-
fireless Schedule			(0 - 63)					
Routing			97 - D						
NS	Drop				_				
R-069				Save	Res	et			
RE Tunnel	Name Tunnel	Type Tunnel Interface		N Tag V	AN Driority		Dron No of Pule	Delete	
S Classifier	Name Tumer	Type Tunner Internace	VERIVIO	iv tag	ANTHONY	IF TO 3/D 3CF	Brop No. of Nule.	Delete	
loS Config					Refresh				
IESH	<			_	Reliesh				
Security	[+] Classifier								
Application	[+] Classifier	Rules							
Maintenance									
RG Troubleshooting									

3

Configure the following parameters:

Table 7-19 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.

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Table 7-19 US Classifier Policy parameters (continued)

Field	Description
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.

4 —

Click Save.

5 —

To delete a policy, click **Delete** for the applicable policy in the policy table.

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

6 -

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 7-25	US Classifier-	Classifier page
-------------	----------------	-----------------

	GPON Ho	me Gate	way				Logout				
	Network>US Classif	fier									
●Status ●Network LAN	[+] Policy [+] Classifier [-] Classifier Rule	25									
LAN_IPv6	Policy				~	Classifier					~
WAN											
WAN DHCP	Interface				~						
Wireless (2.4GHz)						1501515166-05118					
Wireless (5GHz)	Source MAC					Destination MAC	on				
Wireless Schedule	2					Destruction	- ID (
IP Routing	Source IP					Destination	on IP				
DNS	Source Port					Destinatio	on Port				1
TR-069											
GRE Tunnel	IP Protocol Type										
US Classifier		(0 - 254)								
QoS Config				1	Save	Reset					
MESH						2					
Security	Name Interface	Source MAC	Destination MAC	Source IP	Destination IP	Source Port	Destination Port	IP Protocol	Policy	Classifier	Delete
Application											
Maintenance					Refr	esh					
RG Troubleshooting	<										

7 -

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.



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.
Source IP	Click to enter a source IP address.

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Table 7-20 US Classifier parameters (continued)

Field	Description
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.

8 —

Click Save.

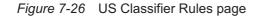
9

To delete a classifier, click **Delete** for the applicable classifier in the classifier table. A classifier can only be deleted if it is not associated with any classifier rules.

10 -

Expand Classifier Rules.

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



	GPON Ho	me Gateway				Logout				
	Network>US Classifi	ier								
[●] Status ● <mark>Network</mark> LAN	[+] Policy [+] Classifier [-] Classifier Rule	s								
LAN_IPv6	Policy			~	Classifier	r î				~
WAN										
WAN DHCP	Interface			~						
Wireless (2.4GHz)										
Wireless (5GHz)	Source MAC				Destinati MAC	on				
Wireless Schedule	Course ID				Destinati					
IP Routing	Source IP				Destinati	ONIP				
DNS	Source Port				Destinati	on Port				17
TR-069										
GRE Tunnel	IP Protocol Type									
US Classifier		(0 - 254)								
QoS Config			1	Save	Reset					
MESH										
Security	Name Interface	Source Destinat MAC MAC	ion Source	Destination IP	Source Port	Destination Port	IP Protocol	Policy	Classifier	Delete
Application						1				
Maintenance				Refr	esh					
RG Troubleshooting	<									>

11

Configure the classifier rule.

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.

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Table 7-21 US Classifier Rules parameters (continued)

Field	Description
Source IP	Enter a source IP address.
Destination IP	Enter a destination IP address.
Source Port	Enter a source port address.
Destination Port	Enter a destination port address.
IP Protocol Type	Enter a value between 0 and 254.

12 —

Click Save.

13 -

To delete a classifier rule, click **Delete** for the applicable classifier rule in the classifier rules table.

END OF STEPS

7.27 Configuring QoS

1 -

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

Figure 7-27 QoS Config page (L2 packet sizes)

	0	GPON H	ome Gate	eway				Logout				
	Network>0	20S Confi	ig									
Status	QoS Setting											
Network		Source	Source	ource	Protocol	Source	Source		Dest			So
LAN	ID	MAC	MAC	Protocol	Exclude	Port	Max	SExclude	Port	Dest Max	DExclude	50
LAN_IPv6		9425220	Exclude		1.11111111111111	10.02505	1.55775			1190320		
WAN	<											>
WAN DHCP												
Wireless <mark>(</mark> 2.4GHz)	Ту	pe	L	2 Criteria	~							
Wir <mark>e</mark> less (5GHz)												
Wireless Schedule		assificatio	n									
IP Routing												
r Routing						2282 1007102						
DNS	So	ource MAC				Exclude [
2			_			Exclude [
DNS TR-069		ource MAC terface	_	elect an opt	ion 🗸	Exclude [
DNS			_	elect an opt	ion 🗸	Exclude [
DNS TR-069 GRE Tunnel	Int	terface	S	elect an opt	ion 🗸	Exclude [
DNS TR-069 GRE Tunnel US Classifier	Int		S	elect an opt	ion 🗸	Exclude [
DNS TR-069 GRE Tunnel US Classifier QoS Config Security	Int CI Re	terface assificatio esult	S	elect an opt	ion 🗸							
DNS TR-069 GRE Tunnel US Classifier QoS Config	Int CI Re DS	terface assificatio	Si Si		ion V	Exclude [802.1p Remark:		Danac (1, 7)				
DNS TR-069 GRE Tunnel US Classifier Cos Config Security Application Maintenance	Int CI Re DS	terface assification esult SCP	Si Si	elect an opt	ion V	802.1p		Range:0~7)				
DNS TR-069 GRE Tunnel US Classifier QoS Config Security Application	CI Re DS Re	terface assification esult SCP	Si Si		ion 🗸	802.1p		Range:0~7)				

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	GPON Home Gateway Logout											
	Network>QoS Config											
Status	QoS Setting											
Network		Courses	Source		Destand	C	Courses		Deet	t Dest		SOL
LAN	D	Source MAC	MAC	Protocol	Protocol Exclude	Source Port	Source Max	SExclude	Dest Port	Max	DExclude	SOL
LAN_IPv6		10000000	Exclude				10-20eve-C		-	0.8940		
WAN	<											>
WAN DHCP	Type			0.11								
Wireless (2.4GHz)			La	Criteria	× 1							
Wireless (5GHz)		sification										
Wireless Schedule	Crite	ria										
IP Routing	Proto	col	Nor	ne .	~	Exclude						
DNS			1	1725								
TR-069	Appli	cation	Cus	stomer setti	ng 🗸							
GRE Tunnel	10000					0.220101010-020						- 11-21
US Classifier	Sourc	oe Ip]	Source I Mask	P				Exclude	
QoS Config		207				20110-2	2002					2452
Security	Dest	lp				Dest Ip N	lask	1			Exclude	1276
Application	Sour	ce Port	_			Source F	last			_	r	
Maintenance	3000	er on				Max					Exclude	
RG Troubleshooting	Dest	Port	1			Dest Por	Max	r		_	,	÷.
	Dest	- un				DESCION	INIGA.				Exclude	253
	802.1	1p										
			(Rano	e:0~7)								
	101-07 E											
	Interf	ace	sele	ect an optic	un 🗸							
	Class	sification It										
	DSCF	P Remark:				802.1p						
			(Rang	e:0~83)		Remark:		(Range:0~7)			
	Form	arding	1									
	Polic	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	(7)	- 4 7								
			(Rang	e:1~7)								

Figure 7-28 QoS Config page (L3 packet sizes)

raft

2 -

Configure the following parameters:

Table 7-22 QoS 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 Exclude 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 Exclude 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 Exclude checkbox.
Destination IP and Destination IP Mask	Enter the values for the destination IP and IP mask, or select the Exclude checkbox.
Source Port and Source Port Max	Enter the values for the source port and port max (highest port number) or select the Exclude checkbox.
Destination Port and Destination Port Max	Enter the values for the destination port and port max (highest port number), or select the Exclude checkbox.

3 -

Click Add to add a QoS policy.

END OF STEPS

Security configuration

7.28 **Overview**

7.28.1 Purpose

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

7.28.2 Contents

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7.29 Configuring the firewall

1

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

- :	7 00	F :	
Figure	7-29	Firewall	page

	GPON Home Gateway	Logout	
	Security>Firewall		
Status	Security Level	Off	
Network	Security Level		
Security	Attack Protection	Enable	<u> </u>
Firewall	High: Traffic Denied Inbound and Minimally		
MAC Filter	Low:All Outbound traffic and pinhole-define Off: All Inbound and Outbound traffic is all		
IP Filter		Save Refresh	
URL Filter			
Parental Control			
DMZ and ALG			
Access Control			
Application			
Maintenance			
RG Troubleshooting			

2 –

Configure the following parameters:

Table 7-23 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 Enable or Disable from the list. The default is Enable .

3 —

Click Save.

END OF STEPS -

7.30 Configuring the MAC filter

1 -

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

Figure 7-30 MAC Filter page

	GPON Home Gateway	Logout	
	Security>MAC Filter		
Status			
Network	Ethernet Interface		
Security	MAC Filter Mode	Allowed	~
Firewall			-
MAC Filter	LAN Port	LAN1 LAN2 LAN3 LAN4	
IP Filter	MAC Address	Custom settings	~
URL Filter	MAC Address		12
Parental Control		e.g: D0:54:2D:00:00:00	
DMZ and ALG			
Access Control		Save	
Application			
Maintenance	MAC	Address	Delete
		Refresh	
		Refresh	
		Refresh	
	Wi-Fi SSID	Refresh	
	Wi-Fi SSID MAC Filter Mode	Allowed	
			2 2
	MAC Filter Mode	Allowed	
	MAC Filter Mode SSID Select	Allowed	
	MAC Filter Mode SSID Select Enable	Allowed SSID1 Custom settings	~
	MAC Filter Mode SSID Select Enable MAC Address	Allowed SSID1	~
	MAC Filter Mode SSID Select Enable	Allowed SSID1 Custom settings e.g: D0:54:2D:00:00:00	~
	MAC Filter Mode SSID Select Enable MAC Address	Allowed SSID1 Custom settings	~

2 -

Configure the following parameters:

Table 7-24 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
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.

3 –

Click Save.

You can:

- Click Select Allto select all the Mac Address records displayed.
- · Click Delete to delete MAC Address.
- Click **Refresh**to display the up-to-date information.

END OF STEPS

7.31 Configuring the IP filter

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



¹

Figure 7-31 IP Filter page

	GPON Home Gateway	Logout	
	Security>IP Filter		
 Status Network 	Enable IP Filter		
Security	Mode	Drop for upstream	~
Firewall	Internal Client	Custom settings	~
MAC Filter	Local IP Address	1	
IP Filter	Local Subnet Mask		
URL Filter	Local Subjet Mask		
Parental Control	Remote IP Address		
DMZ and ALG	Remote Subnet Mask		
Access Control	Protocol	ALL	~
Application	1 Jocobol		
Maintenance	Mode Internal Protocol Local IP Client Protocol Address		Delete
RG Troubleshooting		50 87V	
		Save Refresh	

2 -

Configure the following parameters:

Table 7-25	IP 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
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.

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Table 7-25 IP Filter parameters (continued)

Configure a G-2426G-A indoor ONT

Security configuration Configuring the URL filter

Field	Description
Remote IP Address	Enter the remote IP address.
Destination Subnet Mask	Enter the destination subnet mask.
Protocol	Select an application protocol or ALL from the list.

3 —

Click Add.

END OF STEPS

7.32 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 7-32 URL Filter page

	GPON Home Gateway		Logout		
	Security>URL Filter				
 Status Network Security Firewall MAC Filter IP Filter 	URL Filter please select the URL filters. Enable URL filter URL filter type:	URL Filter please select the type of filter and then configure the URL. Support up to 100 URL filters.			
URL Filter	URL List				
Parental Control DMZ and ALG Access Control Application Maintenance RG Troubleshooting	URL Address URL Address Port – default to 80		Port Number	Delete	

2 —

Configure the following parameters:

Table 7-26 URL Filter parameters

Field	Description			
Enable URL filter	elect the checkbox to enable the URL filter.			
URL filter type	elect 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.			

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

3 Click Add Filter.

END OF STEPS -

7.33 Configuring parental control

1

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

Figure 7-33 Parental Control page

	GPON Home Gateway				Logout					
	Security>Parental Co	Security>Parental Control								
Status Network Security Firewall	Block access addresses	of LAN d	levic	es at g	jiven times, acc	ording t	o the	eir MAC,	IPv4 o	or URL
MAC Filter IP Filter URL Filter	Access Control									
Parental Control DMZ and ALG	Policy Name	Device	IP	URL	Days Of Week	From	То	Delete	Edit	Enable
Access Control Application Maintenance RG Troubleshooting									•	Þ

2 —

Select the Access Control checkbox.

3 -

Click the plus sign (+) to add a policy.

A separate panel displays for configuring the policy name, IP address of the device, and dates and times for the policy.

4 -

Configure the following parameters:

Table 7-27 Parental Control parameters

Field	Field Description	
Access Control Select this checkbox to enable access control.		
Add Access Control rule		

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Table 7-27 Parental Control parameters (continued)

Field	Description
Policy Name	Enter a name for the parental control policy or select a policy from the list.
MAC Address	Enter the MAC address or select a MAC address from the list.
IPv4 Address	Enter the IPv4 address for the device or select an IPv4 address from the list.
Url Port	Enter the URL port for the device.
Days of week	Select Everyday , or Individual Days and select the checkboxes for the days of the week for which the policy applies.
From	Enter the time for the policy to be in effect.
То	

5 —

Click Save changes.

6 _____

Click **Enable** to activate the policy.

END OF STEPS

7.34 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 7-34 DMZ and ALG page

	GPON Home Gateway		L	ogout	
	Security>DMZ and ALG				
Status Network Security Firewall	ALG Config	FTP 🗹 RTSP 🗹	TFTP 🗹 L2TP 🗹 ave ALG	SIP 🗹 IPSEC 🗹	Н323 🗹 РРТР 🗹
MAC Filter IP Filter URL Filter Parental Control	DMZ Config WAN Connection List	1_VOIP_TR	069_INTERNET_R_	VID_881	
DMZ and ALG	Enable DMZ				
Access Control	DMZ IP Address	Custom set	tings		
Maintenance		0.0.0.0	ave DMZ		

2 —

Configure the following parameters:

Table 7-28 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.			
DMZ Config				
WAN Connection List	Select a WAN connection from the list.			
Enable DMZ	Select this checkbox to enable DMZ on the chosen WAN connection.			
DMZ IP Address	Select Custom Settings and enter the DMZ IP address or select the IP address of a connected device from the list.			

3 -

Click Save ALG.

4 —

Configure the following 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.
DMZ Config	
WAN Connection List	Select a WAN connection from the list.
Enable DMZ	Select this checkbox to enable DMZ on the chosen WAN connection.
DMZ IP Address	Select Custom Settings 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

7.35 Configuring access control

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

i No

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.

Figure 7-35 Access Control page

	GPON Home Gate	way 📕		Logo	ut
	Security>Access Control				
		WAN		LAN	
Network		1_VOIP_TR069_	INTERNE~		
Security	Trusted Network Enable				
Firewall	ICMP	Allow	~	Allow	~
MAC Filter	CNP	Allow		Allow	
IP Filter	Telnet	Deny	\sim	Deny	~
URL Filter	SSH	Deny	~	Allow	~
Parental Control	нтти	Deny	~	Allow	~
DMZ and ALG				D	
Access Control	TR-069	Allow	~	Deny	~
*Application	HTTPS	Deny	~	Allow	~
Maintenance	SFTP	Deny	~	Deny	~
RG Troubleshooting		SFTP ac	cess can be se	et in Application -> USB	
		Save		Refresh	
	Trusted Network				
	Trusted Network				
	Source IP Start				
	Source IP End				
			Ade	ł	
	Source IP Start		Source I	P End	Delete

2 –

Configure the following parameters:

Table 7-30 Access Control parameters

Field	Description
WAN	Select a connection from the list.
Trusted Network Enable	Click to enable or disable trusted network.

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Table 7-30 Access Control parameters (continued)

Field	Description
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.

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 7-31 Trusted Network parameters

Field	Description
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

7.36 Overview

7.36.1 Purpose

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

7.36.2 Contents

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7.37 Configuring port forwarding

1

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

Figure 7-36 Port Forwarding page

	GPON Hom	e Gateway				Logout				
	Application>Port Forwa	arding								
Status Network	Application Name		Cust	tom setting	s	2			~	
Security	WAN Port		_							
Application	LAN Port					(1 1)				
Port Forwarding	Internal Client		Cust	tom setting	s	~				
Port Triggering DDNS	Protocol		ТСР					~		
NTP	Enable Mapping									
USB	WAN Connection L	WAN Connection List		1_VOIP_TR069_INTERNET_R_VID_881						
UPNP and DLNA Voice Setting				A	bb					
Maintenance										
RG Troubleshooting										
	Application Name	WAN Connection	WAN Port	LAN Port	Device Name	Internal Client	Protocol	Status	Delete	

2 -

Configure the following parameters:

Field	Description
Application Name	Select an application name from the list The default is Custom settings .
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

Table 7-32 Port Forwarding parameters (continued)

Field	Description
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.

3 —

Click Add.

END OF STEPS

7.38 Configuring port triggering

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

¹



	GPON Home Gateway			Logout				
	Application>Port Triggering	Application>Port Triggering						
Status Network	Application Name	Custom settings					~	
Security	Open Port			e e				
Application	Triggering Port			~				
Port Forwarding	Expire Time	600						
Port Triggering		(Range:1~999999)	(seconds)					
DDNS	Open Protocol	TCP					~	
NTP	Trigger Protocol	TCP					~	
USB	Enable Triggering							
UPNP and DLNA	WAN Connection List	1_VOIP_TR069	INTERNET R	VID 881			~	
Voice Setting								
RG Troubleshooting		Ad	d					

2 -

Configure the following parameters:



Field	Description
Application Name	Select an application name from the list. The default is Custom settings .
Open Port	Enter the open port range.
Triggering Port	Enter the triggering port range.
Expire Time	Enter the expiration time in seconds.

Table 7-33 Port Triggering parameters (continued)

Field	Description
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 -

7.39 Configuring DDNS

1 -

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

Figure 7-38 DDNS page

	GPON Home Gateway	Logout	
	Application>DDNS		
Status	WAN Connection List	1_VOIP_TR069_INTERNET_R_VID_881	~
Network	WAN Connection List		
Security	Enable DDNS		
Application	ISP		~
Port Forwarding	Domain Name		
Port Triggering			
DDNS	Username		
NTP	Password		
USB		Save Refresh	
UPNP and DLNA		Save Reliesh	
Voice Setting			
Maintenance			
RG Troubleshooting			

2 -

Configure the following parameters:

Table 7-34	DDNS parameters
------------	-----------------

Field	Description
WAN Connection List	Select a WAN connection from the list.
Enable DDNS	Select this checkbox to enable DDNS on the chosen WAN connection.
ISP	Select an ISP from the list.
Domain Name	Enter the domain name.
Username	Enter the username.
Password	Enter the password.
DDNS Status	Displays the status of the DDNS: Synchronized, Synchronization failed, or blank if no update message has been received from the ISP.

3 –

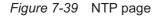
Click Save.

END OF STEPS

7.40 Configuring NTP

1

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



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

2

Configure the following parameters:

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Table 7-35 NTP parameters

Field	Description
Enable NTP Service	Select this checkbox to enable the NTP service.
Current Time	Enter the current local date and time.
Primary Time Server	Select a time server from the list or choose Customer setting and enter the address of the time server.
Secondary Time Server	Select a time server from the list or choose Customer setting and enter the address of the time server.
Third Time Server	Select a time server from the list or choose Customer setting and enter the address of the time server.
Interval Time	Enter the interval at which to get the time from the time server, in seconds.
Time Zone	Select the local time zone from the list.

3 —

Click Save.

END OF STEPS

7.41 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 window.

1 -

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

Figure 7-40 USB page

	GPON Home Gateway			Logout	
	Application>USB				
Status Network	Enable FTP Server				
 Security 	Username	ftpadmin			
Application	Password				
Port Forwarding					
Port Triggering	Re-enter Password	*******			
DDNS					
NTP	Enable SFTP Server				
USB	Enable SFTP for Remote Access				
UPNP and DLNA		sftpadmin			
Voice Setting	Username	Sitpadiriiti			
Maintenance	Password				
RG Troubleshooting	Re-enter Password				
	Enable Printer Sharing				
	Username	myprinter			
	Password				
	Barris Brand				
	Re-enter Password				
	Connected USB Devi	ces Table			
	Host Number De	evice Name	Format	Total Space	Free Space
		Save	e Refresh		

2 —

Configure the following parameters:

Table 7-36 USB parameters

Field	Description	
Enable FTP server	Select this checkbox to enable using an FTP server	

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U
D U

Field	Description	
Username	Enter the username for the FTP server.	
Password	Enter the password for the FTP server.	
Re-enter Password	Enter the password for the FTP server.	
Enable SFTP server	Select this checkbox to enable using an SFTP server.	
Enable SFTP for Remote Access	Select this checkbox to enable SFTP for remote access.	
Username	Enter the username for the SFTP server.	
Password	Enter the password for the SFTP server.	
Re-enter Password	Enter the password for the SFTP server.	
Enable Printer Sharing	Select this checkbox to enable printer sharing. Printer sharing is disabled by default	
Username	Enter the username for the SFTP server.	
Password	Enter the password for the SFTP server.	
Re-enter Password	Enter the password for the SFTP server.	
Connected USB Devices Table	 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) 	

Table 7-36	USB parameters	(continued)
------------	----------------	-------------

3 —

Click Save.

END OF STEPS

7.42 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 7-41 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		
Port Triggering		
DDNS		
NTP		
USB		
UPNP and DLNA		
Voice Setting		
Maintenance		
RG Troubleshooting		

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

3 Click Save/Apply.

7.43 Configuring voice

1

2 -

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

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Figure 7-42 Voice Setting page

	GPON Home Gateway	Logout	
	Application>Voice Setting		
■Status ■Network	Voice Setting:		
Security Application	Outbound Proxy		
Port Forwarding Port Triggering	Outbound Proxy Port	5080	
DDNS NTP	Proxy Server		
USB UPNP and DLNA	Proxy Server Port	5060	
Voice Setting	Registrar Server		
Maintenance RG Troubleshooting	Registrar Server Port	5080	
	UserAgentDomain		
	UserAgentPort	5060	
	DigitMap	*XX(#XX(*X#)XX0000000(88885010)E[0901X000000000) 09001X000000000(19000X,T[09020]090[3-8] [0-3][0903[4-9]]0904[6-9][090[5-8] [4-9][09090]0902[1-9]X000000000(0909[1-9]XX,T]XX,T	
	DTMF Mode	RFC2833	8
	FaxT38	True	
	Line Setting:		
	POTS Line	Line 1	
	Enable	Disabled	,
	Directory Number		
	AuthUserName		
	AuthPassword		
	URI	[_

2 —

Configure the following parameters:

Table 7-37	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.	
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 username.	
AuthPassword	Enter a password for the user.	
URI	Enter the Uniform Resource Identifier of the SIP URL.	

3 –

Click Save.

END OF STEPS -

Maintenance

7.44 Overview

7.44.1 Purpose

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

7.44.2 Contents

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7.45 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".

1

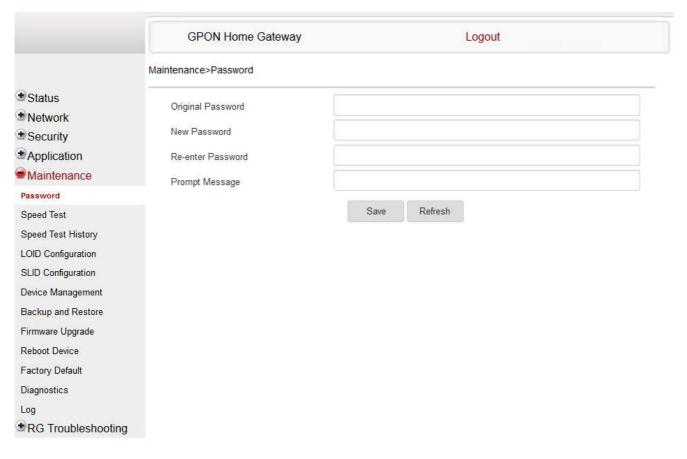
Π

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

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





2

Configure the following parameters:

Draft

Table 7-38 Password parameters

Field	Description
Original Password	Enter the current password.
New Password	Enter the new password (must adhere to the password rules described above).
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.

END OF STEPS -

7.46 WAN speed test

1 -

Click **Maintenance** \rightarrow **Speed test** from the left pane in the GPON Home Gateway page. The Speed Test page displays.

Π

	GPON Home Gateway	Logout
	Maintenance>Speed Test	
* Status		Oliv Principality
Network		Ookla Privacy Policy
Security	Download Speed Uplo	ad Speed
Application	Download Speed Opio	au speeu
Maintenance		
Password	0.00	0.00
Speed Test	0 MbHs/s 1000 0	Mbits/s 1000
Speed Test History		
LOID Configuration		s of uploading or downloading files or make use of any device associate
SLID Configuration	with the optical terminal. This aims to ensu	re a more precise speed measurement.
Device Management	Start Cancel	
Backup and Restore	Click start to start speed test.	
Firmware Upgrade		
Reboot Device		
Factory Default		
Diagnostics		
Log		
RG Troubleshooting		

2 –

Accept Ookla Privacy Policy as instructed in the Note displayed.

Click Start to start the speed test.

You can click **Cancel** to cancel the speed test.

END OF STEPS

7.47 Speed test history

1 –

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

		7368 18	SAM ONT
	Logout		
d (Mbps)	Ping (ms)	Jitter (ms)	-
8.78	250.99	0.75	
8.68	259.17	0.21	
3.86	255.86	0.29	
3.01	245.78	0.29	
3.54	258.74	4.25	
8.63	246.42	1.48	
2.5	749.4	0.59	

raft

Figure 7-44 Speed Test History

	GPON Home Gateway Logout				
	Maintenance>Spee	d Test History			
Status Network	Speed Te	est History			
 Security Application 	Date (Time)	Download (Mbps)	Upload (Mbps)	Ping (ms)	Jitter (ms)
	23-4-1970 03:43:34 AM	21.17	28.78	250.99	0.75
Speed Test	23-4-1970 03:51:02 AM	26.95	28.68	259.17	0.21
Speed Test History	23-4-1970				
LOID Configuration	03:53:55 AM	22.16	28.86	255.86	0.29
SLID Configuration Device Management	23-4-1970 06:02:32 AM	24.56	28.01	245.78	0.29
Backup and Restore Firmware Upgrade	23-4-1970 06:15:36 AM	25.77	28.54	258.74	4.25
Reboot Device	23-4-1970 07:14:13 AM	23.84	28.63	246.42	1.48
Factory Default Diagnostics	25-4-1970 10:25:31 PM	24.55	28.5	249.4	0.59
Log RG Troubleshooting	26-4-1970 10:43:08 AM	21.21	28.27	248.7	0.13
- NO Troubleanooung	1-5-1970 11:28:56 PM	28.29	28.54	252.26	0.64
	1-5-1970 11:40:28 PM	25.99	28.17	248.66	1.17
	1-5-1970 11:58:28 PM	25.15	28.32	253. <mark>0</mark> 8	0.06
	2-5-1970 00:08:32 AM	25.53	28.54	249.54	0.22
	2-5-1970 03:04:37 AM	23.6	28.42	250.93	10.35
	2-5-1970 03:05:42 AM	24.13	28.69	265.32	2.78
	2-5-1970 11:18:22 AM	23.05	28.34	251.08	0.19
	2-5-1970 11:21:34 AM	23.29	28.45	245.56	1.51
	2-5-1970 11:27:43 AM	26.68	28.64	241.23	0.42
	4-5-1970 03:39:49 AM	23.19	28.63	251.82	0.26
	6-5-1970 12:38:32 AM	28.19	28.43	247.51	0.48
	6-5-1970 12:40:20 AM	25.68	28.63	253.04	0.49
	7-5-1970 01:33:43 AM	28.58	28.82	258.65	0.94
	7-5-1970 03:47:00 AM	18.02	28.58	262.21	0.26
	8-5-1970 03:45:14 AM	27,2	28.64	247.78	0.26

Refresh

Π

The history of speed test is displayed.

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

END OF STEPS

The history of the speed test is displayed.

7.48 Configuring LOID

1

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

Figure 7-45	LOID Configuration page
-------------	-------------------------

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

2

Configure the following parameters:

Table 7-39 LOID 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 -

7.49 Configuring SLID

1 -

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

	GPON Home Gateway	Logout	
	Maintenance>SLID Configuration		
Status	Current SLID	44454641554C54	
Network	Current SLID	44454641554054	5
Security	Enter New SLID		
Application	SLID Mode	HEX Mode	~
Maintenance	Note:		
Password		0 ASCII characters allowed (e.g. abcdefg123).	
Speed Test	ASCI MODE. MAXIMUM OF T	a Ascil characters allowed (e.g. abcdelg 123).	
Speed Test History	HEX Mode: Maximum of 20	HEX numbers allowed (e.g. 1234567890ABCDEF1234).	
LOID Configuration		Save Refresh	
		Save Refresh	
SLID Configuration		Save Refresh	
SLID Configuration Device Management		Save Refresh	
SLID Configuration Device Management		Save Refresh	
SLID Configuration Device Management Backup and Restore		Save Refresh	
SLID Configuration Device Management Backup and Restore Firmware Upgrade Reboot Device		Save Refresh	
Device Management Backup and Restore Firmware Upgrade		Save Refresh	
SLID Configuration Device Management Backup and Restore Firmware Upgrade Reboot Device Factory Default		Save Refresh	

Figure 7-46 SLID Configuration page

Π

2 –

Configure the following parameters:

Table 7-40 SLID Configuration 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.

END OF STEPS

7.50 Managing the device

1 -

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

	GPON Home Gateway	Logout	
	Maintenance>Device Management		
Status		DESKTOP-8FLMQKA	
Network	Host Name	DESKTOP-OFLINGRA	
Security	Host Alias		
Application		Add	
Maintenance			
assword			
peed Test			
peed Test History			
OID Configuration	Host Name	Host Alias	Delete
LID Configuration		· · · · · · · · · · · · · · · · · · ·	
evice Management		Refresh	
ackup and Restore			
irmware Upgrade			
eboot Device			
actory Default			
Reboot Device Factory Default Diagnostics Og			

Figure 7-47 Device Management page

2 –

Configure the following parameters:

Table 7-41 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.

END OF STEPS -

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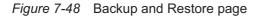
7368 ISAM ONT

Л

7.51 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.



	GPON Home Gateway	Logout
	Maintenance>Backup and Restore	
Status	Select File	Choose file No file chosen
Network	Select File	
Security	Import Config File	Import
Application	Export Config File	Export
Maintenance		
Password		
Speed Test		
Speed Test History		
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

7368 ISAM ONT

7.52 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.



	GPON Home Gateway	Logout
	Maintenance>Backup and Restore	
Status	Select File	Choose file No file chosen
Network	Select File	onose me no me chosen
Security	Import Config File	Import
Application	Export Config File	Export
Maintenance		
Password		
Speed Test		
Speed Test History		
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 a backup file.
3	
•	Click Import to restore the ONT to the saved backup.
End	OF STEPS

7.53 Upgrading firmware

1 -

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



	GPON Home Gateway		Logout
	Maintenance>Firmware Upgrade		
	Select File	Choose file	No file chosen
Network	Select File		The me of each
*Security	Upgrade	Upgrade	
Application			
Maintenance			
Password			
Speed Test			
Speed Test History			
LOID Configuration			
SLID Configuration			
Device Management			
Backup and Restore			
Firmware Upgrade			
Reboot Device			
Factory Default			
Diagnostics			
Log			
RG Troubleshooting			

Click Choose file and select the firmware file.

3 Click **Upgrade** to upgrade the firmware.

END OF STEPS

Draft

7.54 Rebooting the device

1 -

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



	GPON Home Gateway	Logout	
	Maintenance>Reboot Device		
Status		Reboot	ananananananananananananan
Network		ricour	
✤Security			
Application			
Maintenance			
Password			
Speed Test			
Speed Test History			
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.

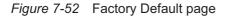
END OF STEPS -

Л

7.55 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.



	GPON Home Gateway	Logout	
	Maintenance>Factory Default		
●Status		Factory Default	
■Network			
■Security			
Application			
Maintenance			
Password			
Speed Test			
Speed Test History			
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

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7.56 Diagnosing WAN connections

1 -

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



	GPON Home Gateway		Logout	
	Maintenance>Diagnostics			
Status	WAN Connect List	LAN/WAN Inter	face	~
Network	IP or Domain Name			
Security			. 20	
Application	Test	Dping Dtraceroute		
Maintenance	Ping Try Times(1 ~ 1000)	4		
Password	Packet Length(64 ~ 1500)	64		
Speed Test	Packet Length(64 ~ 1500)			
Speed Test History	Max no. of trace hops(1 ~ 255)	30		
LOID Configuration		Start Test	Cancel	
SLID Configuration	E.			
Device Management				
Backup and Restore				
Firmware Upgrade				
Reboot Device				
Factory Default				
Diagnostics				
Log				
RG Troubleshooting				

2 —

3

Select a WAN connection to diagnose from the list.

Enter the IP address or domain name.

4 —

5 _____

6 _____

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

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

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

7 _____

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

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

8 _____

9 _____

Click **Cancel** to cancel the test.

END OF STEPS -

7.57 Viewing log files

1 –

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

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Figure 7-54 Log page

	GPON Home Gateway	Logout		
	Maintenance>Log			
Status	Writing Level	Informational	×	~
Network				
Security	Reading Level	Error	2	~
Application	Manufacturer:ALCL		^	^
Maintenance	ProductClass:G-140W-H SerialNumber:ALCL00862470			T
Password	HWVer:3FE48054AAAA			
Speed Test	SWVer:3FE48077HJHK70 IP:192.168.1.254			
Speed Test History				
OID Configuration	1970-01-01 00:00:28 [alert] boot [err] <131>1 1970-04-22T22:11:4	image1 fail count: 1 2.250486+00:00 AONT dhcpd 4128 DHCP-Cor	mm:dealRequestMessage()	
SLID Configuration	[err] <131>1 1970-04-22T22:13:	6.438323+00:00 AONT dhcpd 4128 DHCP-Co	mm:dealRequestMessage()	
Device Management		25.496605+00:00 AONT syslog 12904 open /tm i:16.624003+00:00 AONT syslog 17598 brcm I	전 특히 있는 것 같은 것 같	
Backup and Restore	1970-01-01 00:00:24 [alert] boot			
Firmware Upgrade		25.870561+00:00 AONT dhcpd 2925 DHCP-Co 1.376765+00:00 AONT syslog 10960 [spdtst		
Reboot Device		3 728539+00 00 AONT syslog 11032 - [spdtst_]		
Factory Default		5.372970+00:00 AONT syslog 11098 [spdtst_] 7.410019+00:00 AONT syslog 11126 [spdtst_]		
Diagnostics		9.375654+00:00 AONT syslog 11142 [spdtst_f 21.391863+00:00 AONT syslog 11166 [spdtst_f		
Log	<	internet to a month by blog mote a labuar		*
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 —

Π

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.

END OF STEPS

RG Troubleshooting Counters

7.58 Overview

7.58.1 Purpose

This section describes the RG troubleshooting counters GUI procedures.

7.58.2 Contents

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7.59 Viewing Residential Gateway (RG) troubleshooting counters	167

7.59 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 window also displays upstream and downstream packet loss and Internet status.

1 –

Click **RG Troubleshooting** \rightarrow **RG Troubleshoot Counters** from the left pane 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_TR	R069_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 Internet Status	0 Linking	
	Latency		LatencyTest
	DNS Response Time		DNSResponseTest
		Refre	sh

2 –

Configure the following parameters:

Table 7-42 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 US Speed Test 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 DS Speed Test to specify the time for the downstream test. The default is weekly, performed at idle to a public server.
US Packet Loss	Indicates the number of upstream packages lost.

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Table 7-42 RG Troubleshooting Counters parameters (continued)

Field	Description
DS Packet Loss	Indicates the number of downstream packages lost.
Internet Status	Indicates whether the broadband connections is active (UP) or not (DOWN).
Latency	This test is used to determine the lowest round-trip time in milliseconds by pinging the target server multiple times Click Latency Test 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 DNS Response Test to specify the time for the test. The default is weekly, performed at idle to a public server.

3 -

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

END OF STEPS

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8 ONT configuration file over OMCI

8.1 Overview

8.1.1 Purpose

8.1.2 Contents

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8.4 ONT configuration file over OMCI	174

8.2 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.

8.3 Supported configuration file types

Table 8-1, "Supported configuration files" (p. 172) describes the configuration file types that are supported from 7368 ISAM ONT R05.02.00 and later.

Table 8-1 Supported 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.

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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.	Nokia G.fast.
		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"	

Table 8-1 Supported configuration files (continued)

8.3.1 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.

ABCXXXXVER

where

ABC is the file index type (PRE, CFG, XML, GFT)

XXXX is the operator ID

For PRE and CFG, a valid operator ID is required

For XML and GFT, any characters may be used

VER is the file version (from 001 to 999)

Note: you cannot update the configuration using two files with the same name.

 \checkmark

1

8.3.2 Download configuration file

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

1

ONT type	Legacy method download	Zero management download		
	PRE file	CFG file	PRE file	CFC

Table 8-2	Download configuration files	
-----------	------------------------------	--

Broadlight(eg.I240WA-

3FE54869AFGA80) Broadcom(eg.G240WB-

3FE56773BFGA07)

CFG file

√

1

Table 8-2 Download configuration files (continued)

ONT type	Legacy method download		Zero management download	
	PRE file	CFG file	PRE file	CFG file
MTK(eg.G240WF)	—	\checkmark	\checkmark	\checkmark

8.4 ONT configuration file over OMCI

WARNING

Equipment Damage

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.

8.4.1 Configuring an ONT using a configuration file via legacy method

1

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.

2

Using OLT commands, download the TAR file to the ONT.

For OLT commands, refer to the 7360 ISAM FX CLI Command Guide for 100_320Gbps FD NT and FX NT, 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=FILENAME 4**, the OLT reports an error because the filenames are not the same.

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e. Configure equipment interface pland-cfgfile1=XMLXXXXXX1 and dnload-cfgfile1 XMLXXXXXX1

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.

8.4.2 Configuring an ONT using a configuration file via OMCI

1

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 8.3 "Supported configuration file types" (p. 171).
- b. Tar the ABCXXXXVER raw configuration file:

tar -cf ABCXXXXVER.tar ABCXXXXVER

Where

ABCXXXXVER

Is the name of the file created in step i.

This creates two files: ABCXXXVER and ABCXXXVER.tar.

- c. Rename ABCXXXXVER to ABCXXXXVER.org
- d. Remove the ".tar" extension from ABCXXXVER.tar file.
- 2 -

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.

3

Using OLT commands, download the TAR file to the ONT. For OLT commands, refer to the 7360 ISAM FX CLI Command Guide for 100_320Gbps FD NT *and FX NT*, 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=FILENAME 4**, 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.