Nokia ONT

G-1425G-A Product Guide

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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

Hazard

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

Equipment Damage

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

CAUTION

Service Disruption

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

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 **Downloads: ALED** to go to the Electronic Delivery: Downloads page.

5

Select **Documentation** from the list.

6

Select a release from the list.

7

Follow the on-screen directions to download the file.

END OF STEPS

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1

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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

1

Open Adobe Acrobat Reader.

2

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

3

Enter the search criteria.

4

Select **All PDF Documents In**.

5

Select the folder in which to search using the 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.

How to comment

To comment on this document, go to the Online Comment Form (https://documentation.nokia.com/comments/) or e-mail your comments to the Comments Hotline (mailto:comments@nokia.com).

1 What's new

1.1 Overview

1.1.1 Purpose

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1.2 What's new in BBD Release 21.03a

Table 1-1, "What's new in BBD Release 21.03a" (p. 21) lists the new features and enhancements added to the G-1425G-A product guide in Issue 5.

Table 1-1 What's new in BBD Release 21.03a

Feature/enhancement	Description	See
New features/enhancements		
Part numbers and identification	Added the ordering kit part numbers and related power supply details for customer specific variants.	Section 5.2 "G-1425G-A part numbers and identification" (p. 45)

1.3 What's new in BBD Release 21.03

Table 1-2, "What's new in BBD Release 21.03" (p. 21) lists the new features and enhancements added to the G-1425G-A product guide in Issue 4.

Table 1-2 What's new in BBD Release 21.03

Feature/enhancement	Description	See
Documentation changes		
Plug type	Added a table which describes the various plug types used in a ONT.	Table 5-3, "Plug types" (p. 47)

1.4 What's new in BBD Release 21.02a

Table 1-3, "What's new in BBD Release 21.02a" (p. 21) lists the new features and enhancements added to the G-1425G-A product guide in Issue 3.

Table 1-3 What's new in BBD Release 21.02a

Feature/enhancement	Description	See
New features/enhancements		
Part numbers and identification	Added the ordering kit part numbers and related power supply details for customer specific variants.	Section 5.2 "G-1425G-A part numbers and identification" (p. 45)

1.5 What's new in BBD Release 21.02

Table 1-4, "What's new in BBD Release 21.02" (p. 22) lists the new features and enhancements added to the G-1425G-A product guide in Issue 2.

Table 1-4 What's new in BBD Release 21.02

Feature/enhancement	Description	See
New features/enhancements		
Log files	Updated the log page and added information on Export option.	Section 8.58 "Viewing log files" (p. 182)

1.6 What's new in BBD Release 21.01

The Product guide is a new guide in BBD Release 21.01, issue 1. In future releases, this chapter will provide tables of the feature and document changes applicable to this guide.

2 ETSI ONT safety guidelines

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

2.1 Safety instructions

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

2.1.1 Safety instruction boxes

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

The following is an example of the Danger box.

DANGER

Hazard

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.

WARNING

Equipment Damage

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.

CAUTION

Service Disruption

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.

Note: Information of special interest.

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

2.1.2 Safety-related labels

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

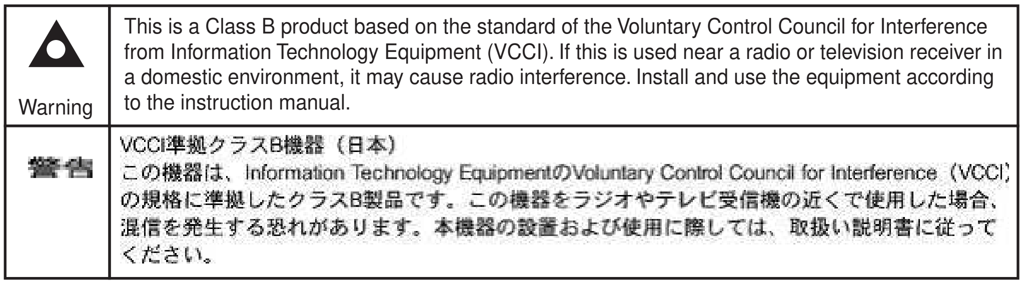
Table 2-1, "Safety labels" (p. 23) provides sample safety labels on the ONT equipment.

Table 2-1 Safety labels

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

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

Figure 2-1 VCCI warning



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

19841

2.2 Safety standards compliance

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

2.2.1 EMC, EMI, and ESD compliance

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

- EN 300-328 v1.9.1 wide band data transmission standards for 2.4GHz bands
- EN 300-386 V1.5.1: Electromagnetic Compatibility and Radio Spectrum Matters (ERM): Telecommunications Network Equipment; Electromagnetic Compatibility (EMC) requirements; Electrostatic Discharge (ESD) requirements
- EN 55022 (2006): Class B, Information Technology Equipment, Radio Disturbance Characteristics, limits and methods of measurement
- EN 55024 (2010): Information Technology Equipment, Immunity Characteristics, limits and methods of measurement
- European Council Directive 2004/108/EC
- EN 300-386 V1.4.1: 2008
- EN 55022:2006 Class B (ONTs)
- EN 301489-1 and EN 301489-17
- EN 55032: Information Technology Equipment, Immunity Characteristics, limits and methods of measurement
- EN 61000-3-2

2.2.2 Equipment safety standard compliance

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

2.2.3 Environmental standard compliance

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

2.2.4 Laser product standard compliance

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

2.2.5 Resistibility requirements compliance

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

2.2.6 Acoustic noise emission standard compliance

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

2.3 Electrical safety guidelines

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

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

The ONTs comply with BS EN 61140.

2.3.1 Power supplies

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

2.3.2 Cabling

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

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

2.3.3 Protective earth

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

2.4 ESD safety guidelines

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

CAUTION

Service Disruption

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

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

2.5 Laser safety guidelines

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

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

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.

DANGER

Hazard

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

2.5.1 Laser classification

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

Laser warning labels

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

Figure 2-2, “Laser product label” (p. 26) shows a laser product label.

Figure 2-2 Laser product label

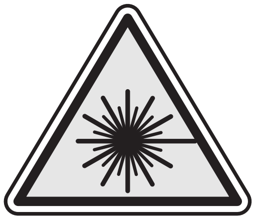


Figure 2-3, “Laser classification label” (p. 28) shows a laser classification label. Laser classification labels may be provided in other languages.

Figure 2-3 Laser classification label

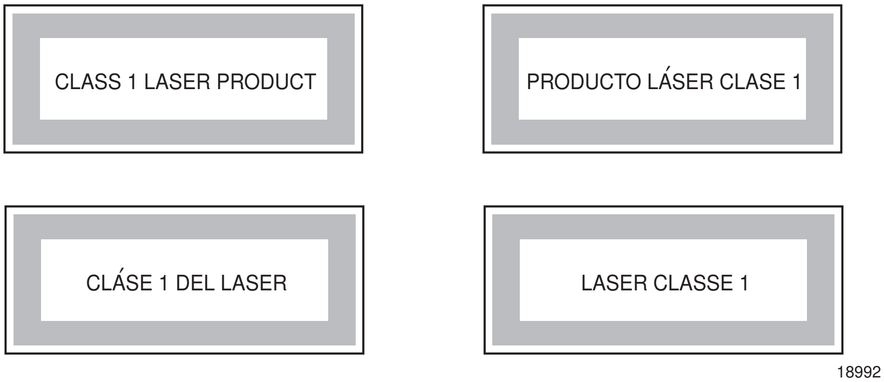
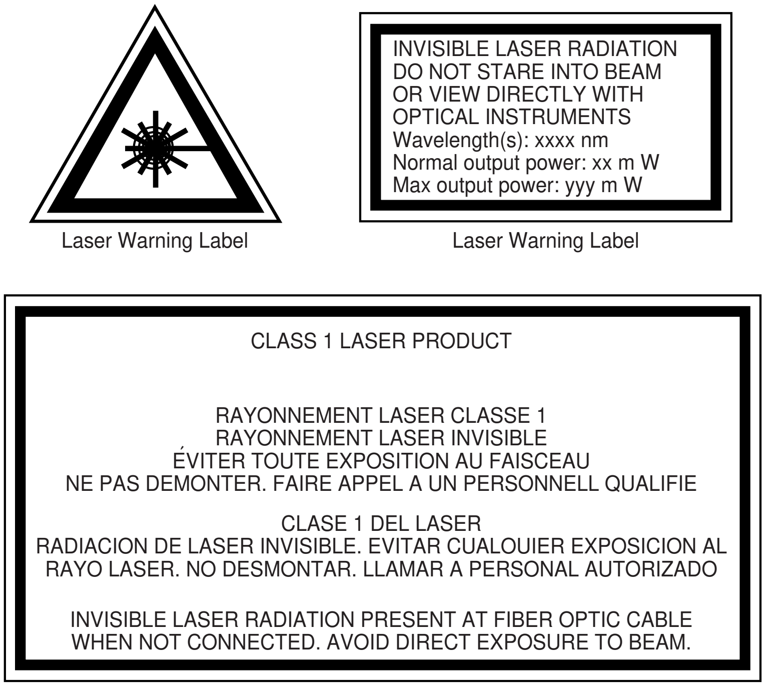

CLASS 1 LASER PRODUCT
PRODUCTO LÁSER CLASE 1
CLÁSE 1 DEL LASER
LASER CLASSE 1
18992

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

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

Figure 2-4 Laser warning labels


INVISIBLE LASER RADIATION
DO NOT STARE INTO BEAM
OR VIEW DIRECTLY WITH
OPTICAL INSTRUMENTS
Wavelength(s): xxxx nm
Normal output power: xx m W
Max output power: yyy m W
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

Laser Warning Label

Laser Warning Label

18993

2.5.2 Transmit optical output

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

2.5.3 Normal laser operation

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

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

DANGER

Hazard

Risk of eye damage by laser radiation.

2.5.4 Location class

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

2.6 Environmental requirements

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

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

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

3 ETSI environmental and CRoHS guidelines

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

3.1 Environmental labels

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

3.1.1 Overview

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

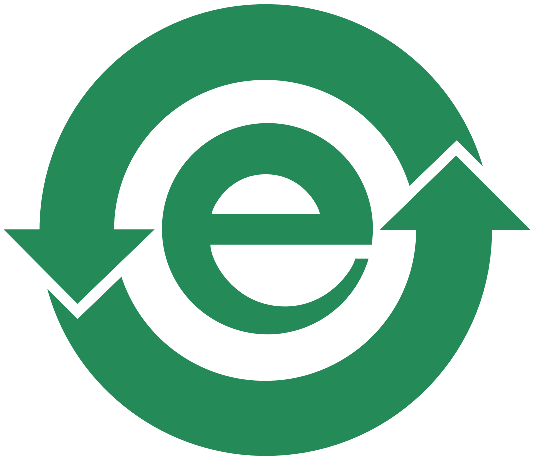
3.1.2 Environmental related labels

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

Products below Maximum Concentration Value (MCV) label

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

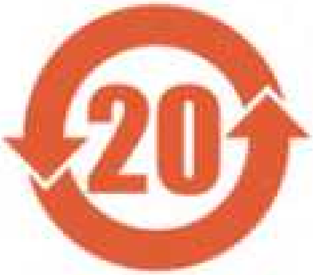
Figure 3-1 Products below MCV value label



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

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

Figure 3-2 Products above MCV value label



Together with major international telecommunications equipment companies, Nokia has determined it is appropriate to use an EFUP of 50 years for network infrastructure equipment and an EFUP of 20 years for handsets and accessories. These values are based on manufacturers' extensive practical experience of the design, manufacturing, maintenance, usage conditions, operating environments, and physical condition of infrastructure and handsets after years of service. The values reflect minimum values and refer to products operated according to the intended use conditions. See 3.2 "Hazardous Substances Table (HST)" (p. 32) for more information.

3.2 Hazardous Substances Table (HST)

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

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

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

3.3 Other environmental requirements

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

3.3.1 ONT environmental requirements

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

3.3.2 Storage

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

3.3.3 Transportation

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

3.3.4 Stationary use

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

3.3.5 Material content compliance

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

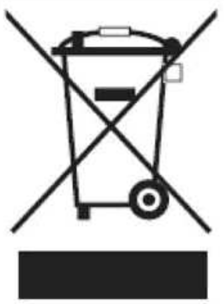
Nokia has implemented a material/substance content management process. The process is described in: Nokia process for ensuring RoHS Compliance (1AA002660031ASZZA). This ensures compliance with the European Union Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS2). With the process equipment is assessed in accordance with the Harmonised Standard EN50581:2012 (CENELEC) on Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances.

3.3.6 End-of-life collection and treatment

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

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

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



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

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

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

4 ANSI ONT safety guidelines

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

4.1 Safety instructions

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

4.1.1 Safety instruction boxes in customer documentation

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

The following is an example of the Danger box.

DANGER

Hazard

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.

WARNING

Equipment Damage

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.

⚠ **CAUTION**

Service Disruption

Possibility of service interruption.

Service interruption.

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

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

The following is an example of the Note box.

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

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

4.1.2 Safety-related labels

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

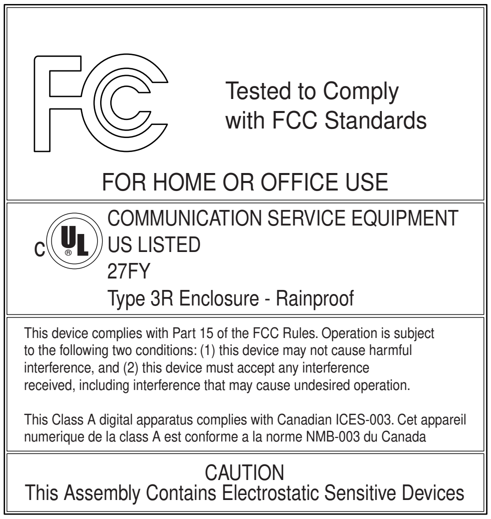
Table 4-1, “Safety labels” (p. 35) provides examples of the text in the various ONT safety labels.

Table 4-1 Safety labels

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

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

Figure 4-1 Sample safety label on the ONT equipment



Tested to Comply
with FCC Standards

FOR HOME OR OFFICE USE

COMMUNICATION SERVICE EQUIPMENT
US LISTED
27FY
Type 3R Enclosure - Rainproof

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.

This Class A digital apparatus complies with Canadian ICES-003. Cet appareil numerique de la class A est conforme a la norme NMB-003 du Canada

CAUTION
This Assembly Contains Electrostatic Sensitive Devices

4.2 Safety standards compliance

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

WARNING

Equipment Damage

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

4.2.1 EMC, EMI, and ESD standards compliance

The ONT equipment complies with the following requirements:

- Federal Communications Commission (FCC) CFR 47, Part 15, Subpart B, Class 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

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

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

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

4.2.2 Equipment safety standard compliance

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

4.2.3 Environmental standards compliance

The ONT equipment complies with the following standards:

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

4.2.4 Laser product standards compliance

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

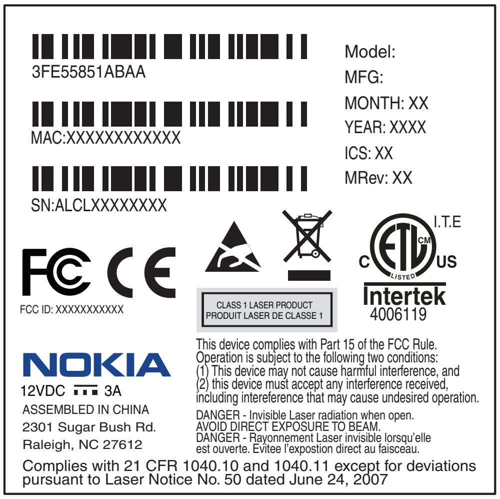
Per CDRH 21 CFR 10.40.10 (h) (1) (iv) distributors of Class 1 laser products, such as Nokia ONTs shall leave the following Laser Safety cautions with the end user.

a) “Class 1 Laser Product”

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

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

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



3FE55851ABAA

MAC:XXXXXXXXXXXX

SN:ALCLXXXXXXXX

Model:
MFG:
MONTH: XX
YEAR: XXXX
ICS: XX
MRev: XX

FCC ID: XXXXXXXXXXX

CLASS 1 LASER PRODUCT
PRODUIT LASER DE CLASSE 1

I.T.E
Intertek
4006119

NOKIA
12VDC ⎓ 3A
ASSEMBLED IN CHINA
2301 Sugar Bush Rd.
Raleigh, NC 27612

This device complies with Part 15 of the FCC Rule. 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 intereference that may cause undesired operation.

DANGER - Invisible Laser radiation when open. AVOID DIRECT EXPOSURE TO BEAM. DANGER - Rayonnement Laser invisible lorsqu'elle est ouverte. Evitee l'expostion direct au faisceau.

Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50 dated June 24, 2007

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4.2.5 Resistibility requirements compliance

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

4.3 Laser safety guidelines

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

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

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 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.

DANGER

Hazard

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

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

a) “Class 1 Laser Product”

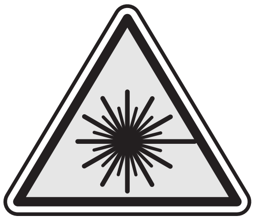
b) “Caution – Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.”

4.3.1 Laser warning labels

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

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

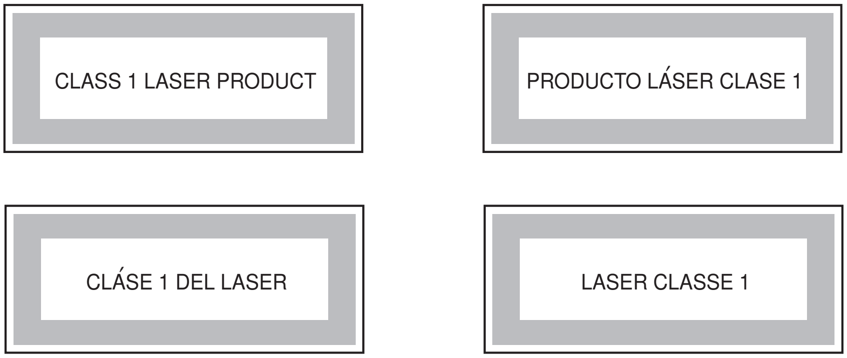
Figure 4-3 Laser product label



18455

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

Figure 4-4 Laser classification label



CLASS 1 LASER PRODUCT

PRODUCTO LÁSER CLASE 1

CLÁSE 1 DEL LASER

LASER CLASSE 1

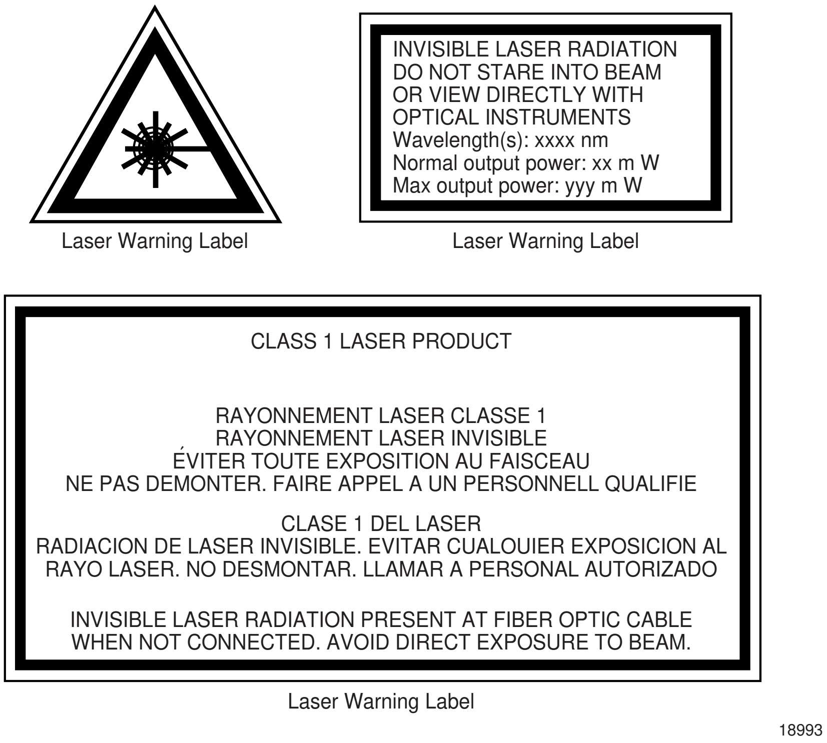
18992

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

- a warning that calls attention to the invisible laser radiation
- an instruction against staring into the beam or viewing directly with optical instruments

- wavelength
- normal output power
- maximum output power

Figure 4-5 Laser warning labels



INVISIBLE LASER RADIATION
DO NOT STARE INTO BEAM
OR VIEW DIRECTLY WITH
OPTICAL INSTRUMENTS
Wavelength(s): xxxx nm
Normal output power: xx m W
Max output power: yyy m W

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.

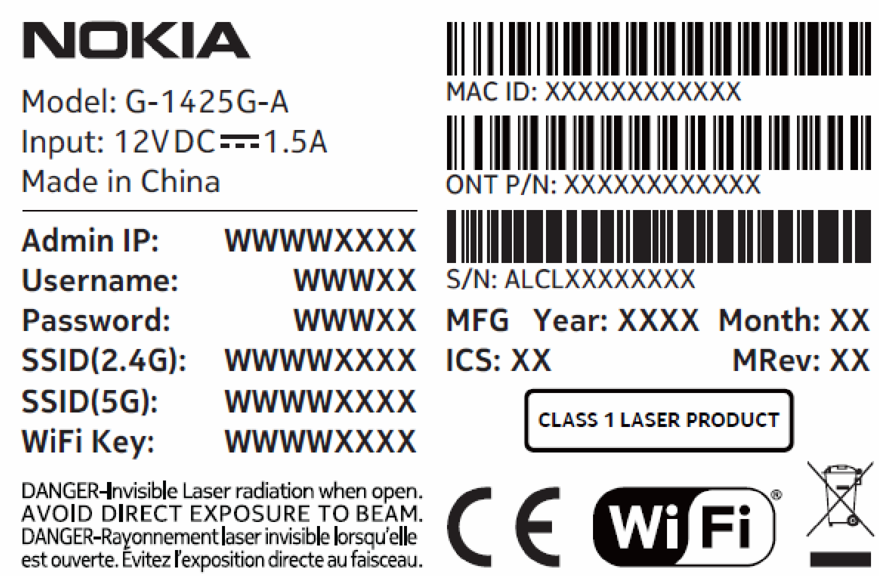
4.3.2 Laser classification

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

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

Figure 4-6, “Sample laser product safety label on the ONT equipment” (p. 42) shows a sample laser product safety label on the ONT equipment.

Figure 4-6 Sample laser product safety label on the ONT equipment



NOKIA

Model: G-1425G-A
Input: 12VDC ⎓ 1.5A
Made in China

Admin IP:	**WWWWXXXX**
Username:	**WWWXX**
Password:	**WWWXX**
SSID(2.4G):	**WWWWXXXX**
SSID(5G):	**WWWWXXXX**
WiFi Key:	**WWWWXXXX**

DANGER-Invisible Laser radiation when open.
AVOID DIRECT EXPOSURE TO BEAM.
DANGER-Rayonnement laser invisible lorsqu'elle
est ouverte. Evitez l'exposition directe au faisceau.

MAC ID: XXXXXXXXXXXX
ONT P/N: XXXXXXXXXXXX
S/N: ALCLXXXXXXXX
MFG Year: XXXX Month: XX
ICS: XX MRev: XX

CLASS 1 LASER PRODUCT

4.3.3 Transmit optical output

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

4.3.4 Normal laser operation

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

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

DANGER

Hazard

Risk of eye damage by laser radiation.

4.3.5 Location class

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

4.4 Electrical safety guidelines

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

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

4.4.1 Power supplies

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

4.4.2 Cabling

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

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

4.4.3 Protective earth

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

4.5 ESD safety guidelines

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

CAUTION

Service Disruption

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

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

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

4.6 Environmental requirements

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

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

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

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

5 G-1425G-A unit data sheet

5.1 Overview

5.1.1 Purpose

5.1.2 Contents

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5.2 G-1425G-A part numbers and identification

Table 5-1, “Identification of G-1425G-A indoor ONTs” (p. 45) provides part numbers and identification information for the G-1425G-A indoor ONT.

Table 5-1 Identification of G-1425G-A indoor ONTs

Ordering kit part number	Provisioning number	Description	CLEI Code	CPR	ECI/ Bar code
3FE 49563 AC	3FE 77771 AC	G-1425G-A, GPON Dual Band 2+2 RGW ONT. Supports 1 POTS ports, 4xGE UNI, Wi-Fi 2x2 802.11b/g/n and 2x2 802.11ac. No USB ports and a 12V 1.5A wall-mounted AC/DC power adapter with 2-pin EU input plug. External antenna with 5dBi gain for each.	—	—	—

Table 5-1 Identification of G-1425G-A indoor ONTs (continued)

Ordering kit part number	Provisioning number	Description	CLEI Code	CPR	ECI/ Bar code
3FE 49563 AD	3FE 77771 AD	G-1425G-A, GPON Dual Band 2+2 RGW ONT. Supports 1 POTS ports, 4xGE UNI, Wi-Fi 2x2 802.11b/g/n and 2x2 802.11ac. No USB ports and a 12V 1.5A wall mounted AC/DC power adapter with 2-pin EU input plug. External antenna with 5dBi gain for each.	—	—	—
3FE 49563 BB	3FE 77771 BB	G-1425G-A, GPON Dual Band 2+2 RGW ONT. Supports 1 POTS ports, 4xGE UNI, Wi-Fi 2x2 802.11b/g/n and 2x2 802.11ac. No USB ports and a 12V 1.5A wall mounted AC/DC power adapter with 2-pin US input plug. External antenna with 5dBi gain for each.	—	—	—
3FE 49563 BC	3FE 77771 BC	G-1425G-A, GPON Dual Band 2+2 RGW ONT. Supports 1 POTS ports, 4xGE UNI, Wi-Fi 2x2 802.11b/g/n and 2x2 802.11ac. No USB ports and a 12V 1.5A wall mounted AC/DC power adapter with 2-pin US input plug. External antenna with 5dBi gain for each.	—	—	—
3FE 49563 BD	3FE 77771 BD	G-1425G-A, GPON Dual Band 2+2 RGW ONT. Supports 1 POTS ports, 4xGE UNI, Wi-Fi 2x2 802.11b/g/n and 2x2 802.11ac. No USB ports and a 12V 1.5A wall mounted AC/DC power adapter with 2-pin US input plug. External antenna with 5dBi gain for each.	—	—	—
3FE 49563 BE	3FE 77771 BE	G-1425G-A, GPON Dual Band 2+2 RGW ONT. Supports 1 POTS ports, 4xGE UNI, Wi-Fi 2x2 802.11b/g/n and 2x2 802.11ac. No USB ports and a 12V, 1.5A wall mounted AC/DC power adapter with 2-pin US input plug. External antenna with 5dBi gain for each.	—	—	—
3FE 49563 BF	3FE 77771 BF	G-1425G-A, GPON Dual Band 2+2 RGW ONT. Supports 1 POTS ports, 4xGE UNI, Wi-Fi 2x2 802.11b/g/n and 2x2 802.11ac. No USB ports and a 12V, 1.5A wall mounted AC/DC power adapter with 2-pin US input plug. External antenna with 5dBi gain for each.	—	—	—
3FE 49563 CA	3FE 77771 CA	G-1425G-A, GPON Dual Band 2+2 RGW ONT. Supports 1 POTS ports, 4xGE UNI, Wi-Fi 2x2 802.11b/g/n and 2x2 802.11ac. No USB ports and a 12V, 1.5A wall mounted AC/DC power adapter with 2-pin AU input plug. External antenna with 5dBi gain for each.	—	—	—

Table 5-2, “G-1425G-A power supply ordering information” (p. 47) provides the power supply information for the G-1425G-A ONT. For more information on power supplies, see the **Nokia ONT Power Supply and UPS Guide**. The power consumption is less than 18 W.

Table 5-2 G-1425G-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: 3FE 49563 AC EMA: 3FE 77771 AC	FUHUA: UES18LV-120150SPA/ UE200912GWZF1RI RUIDE: RD1201500-C55-153OG/ BS120150-EC6C-LL00	12 V, 1.5A wall mounted AC/DC power adapter, EU plug in	Europe, CE certified	2-pin EU input plug
Kit: 3FE 49563 AD EMA: 3FE 77771 AD	FUHUA: UES18LV-120150SPA/ UE200912GWZF1RI RUIDE: RD1201500-C55-153OG/ BS120150-EC6C-LL00	12 V, 1.5A wall mounted AC/DC power adapter, EU plug in	Europe, CE certified	2-pin EU input plug
Kit: 3FE 49563 BB EMA: 3FE 77771 BB	FUHUA: UES24WU-120200SPA/ UE191025GWZF4RI MOSO: MSA-C1500CS12.0-18J-US/SA226-U0	12 V, 1.5A wall mounted AC/DC power adapter, US plug in	ANSI municipality US, Mexico, CB/NOM certified	2-pin US input plug
Kit: 3FE 49563 BC EMA: 3FE 77771 BC	FUHUA: UES18LU-120150SPA/ UE200327GWZF2RI RUIDE: RD1201500-C55-153MG/ BS120150-UC6C-LL02	12 V, 1.5A wall mounted AC/DC power adapter, US plug in	ANSI municipality US, UL/CB certified	2-pin US input plug
Kit: 3FE 49563 BD EMA: 3FE 77771 BD	FUHUA: UES18LU-120150SPA/ UE200327GWZF2RI RUIDE: RD1201500-C55-153MG/ BS120150-UC6C-LL02	12 V, 1.5A wall mounted AC/DC power adapter, US plug in	ANSI municipality US, UL/CB certified	2-pin US input plug
Kit: 3FE 49563 BE EMA: 3FE 77771 BE	FUHUA : UES24WU-120200SPA/ UE191025GWZF4RI MOSO: MSA-C1500CS12.0-18J-US/SA226-U0	12 V, 1.5A wall mounted AC/DC power adapter, US plug in	ANSI municipality US, UL/CB certified	2-pin US input plug
Kit: 3FE 49563 BF EMA: 3FE 77771 BF	FUHUA: UES18LU-120150SPA/ UE200327GWZF2RI RUIDE:RD1201500-C55-153MG/ BS120150-UC6C-LL02	12 V, 1.5A wall mounted AC/DC power adapter, US plug in	ANSI municipality US, UL/CB certified	2-pin US input plug
Kit: 3FE 49563 CA EMA: 3FE 77771 CA	FUHUA: UES18LS-120150SPA/ UE210707GWZF1RI RUIDE: RD1201500-C55-81AG/ BK120150-FC6C-LL03	12 V, 1.5A wall mounted AC/DC power adapter, AU plug in	Australia, RCM certified	2-pin AU input plug

The following table describes the various plug types used in the ONTs.

Table 5-3 Plug types

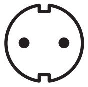
Plug type	Icon
2-pin EU plug	

Table 5-3 Plug types (continued)

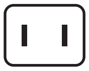
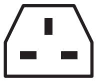
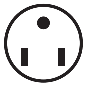
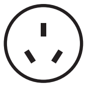
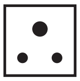
Plug type	Icon
2-pin US plug	
3-pin UK plug	
3-pin US plug	
3-pin AU plug	
3-pin India plug	

Table 5-4, “Hardware parts required for G-1425G-A installations” (p. 48) lists the hardware parts required for mounting an G-1425G-A ONT.

Table 5-4 Hardware parts required for G-1425G-A installations

Part	Description
ONT unit	The G-1425G-A ONT
Wall mount bracket (3FE 49555 AA)	The wall mount bracket is fastened to a wall. The G-1425G-A ONT is seated in the wall mount bracket.
Mounting screws	Two screws are required to mount the wall mount bracket. The recommended screw is a M4 or #6 screw with a pan head style of screw head.

5.3 G-1425G-A general description

G-1425G-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.

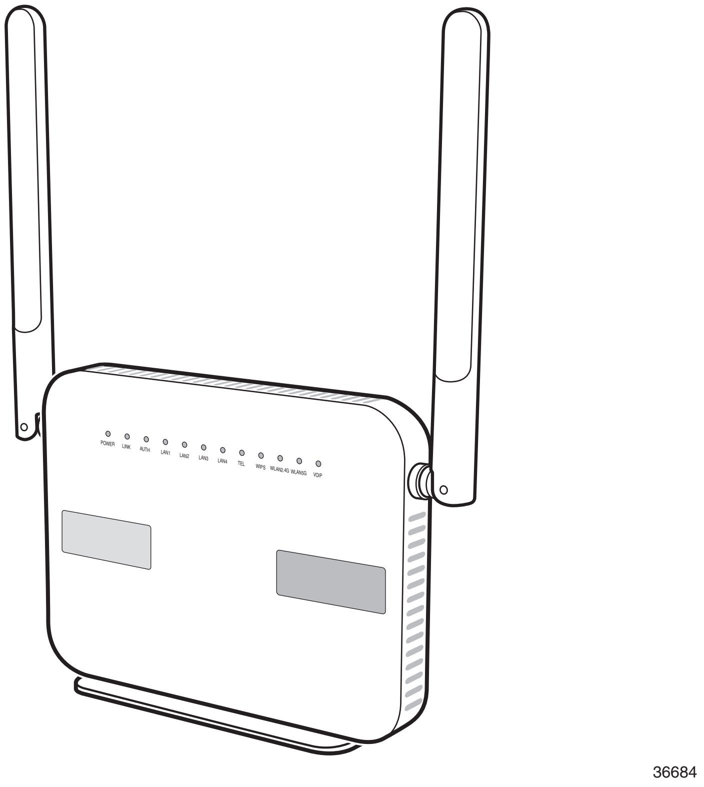
The G-1425G-A has built-in Wi-Fi 802.11 b/g/n/ac networking with triple play capability and can provide triple play services with voice, video and data.

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.

Figure 5-1, "G-1425G-A ONT (external antenna)" (p. 48) shows the G-1425G-A ONT.

Figure 5-1 G-1425G-A ONT (external antenna)



G-1425G-A indoor ONTs provide the following functions:

- 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, 20/40 MHz
- Supports 802.11ac 2x2 Wireless 5 GHz Mu-MIMO; Channel bandwidth 20, 40, 80 MHz
- Four Gigabit standard RJ-45 1000/100/10 Mbps, auto negotiating Ethernet ports and MDI/MDIX auto sensing
- One POTS ports with R-J11 connectors
- 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: 160mW/22 dBm (2.4 GHz); 160mW/22 dBm (5GHz)
- Maximum effective isotropic radiated power (EIRP):
  - 5dBi external antenna: 500mW/27 dBm (2.4GHz); 500mW/27 dBm (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
- SoftGRE support
- OOKLA Speed Test support
- TR181 support

5.3.1 TR-069 parameter support

The G-1425G-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

Host object support

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

Port forwarding support

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

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

These are the same port forwarding parameters supported in the GUI. For more information, see Table 8-36, “Port Forwarding parameters” (p. 163) in Chapter 8, “Configure a G-1425G-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 8-9, “Optics Module Status parameters” (p. 107) in Chapter 8, “Configure a G-1425G-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 8-16, “Wireless (2.4GHz) parameters” (p. 121) and Table 8-17, “Wireless (5GHz) parameters” (p. 123) in Chapter 8, “Configure a G-1425G-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 8.57 “Diagnosing WAN connections” (p. 180) in Chapter 8, “Configure a G-1425G-A indoor ONT”.

5.3.2 TR69 authentication using TLS and CA certificates

G-1425G-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-1425G-A ONTs support TLSv1.3 for TR069. The ONT supports download certification from ACS.

5.3.3 TR-104 parameter extension support for voice service

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

The TR-104 Voice Service Object is: InternetGatewayDevice.Services.VoiceService.{i}.Capabilities.SIP.

The vendor specific attribute is: X_ALU-COM_XML_File_Name_Path.

5.3.4 TR-104 voice-related alarms

The G-1425G-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

5.3.5 TR-104 parameters for FX line testing

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

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

5.3.6 TR-111 support

The G-1425G-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.

5.3.7 TR-181 parameter support

TR-181 parameter support has been introduced or enhanced for the parameter categories and functions listed in Table 5-5, “Support for TR-181 parameter categories” (p. 53).

TR-181 can be enabled (instead of TR-098) by defining the associated TR-181 parameter in a customer specific pre-configuration file downloadable into the ONT.

For details about which parameters are supported, see your Nokia representative.

Table 5-5 Support for TR-181 parameter categories

Parameter category	Functionality
Device info and statistics	Device information
	Optical statistics
	Ethernet statistics
	Wi-Fi statistics
	Bridge statistics
	PPP statistics
	IP statistics
	Periodic statistics
	Voice statistics
Diagnostics	Wi-Fi diagnostic
	Ping
	Trace route
	TR143 Speed test
	Self test
	Voice diagnostics
	NSLookup diagnostics
Optical configuration	

Table 5-5 Support for TR-181 parameter categories (continued)

Parameter category	Functionality
Forwarding configuration	Ethernet
	Bridge
	PPP
	IP
	Routing
	QoS
	DSlite
	NAT
	Neighbor Discovery
Hosts configuration	
Wi-Fi configuration	
Service configuration	Voice service
	DDNS
	DNS
	DHCP
	GRE
	IGMP
	NTP timing
Firewall	
WebGUI configuration	
Nokia Wi-Fi configuration	Nokia Wi-Fi cloud service

5.4 G-1425G-A software and installation feature support

For information on installing or replacing the G-1425G-A see:

- Chapter 6, “Install a G-1425G-A indoor ONT”
- Chapter 7, “Replace a G-1425G-A indoor ONT”

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

- ONT and MDU general descriptions of features and functions
- Ethernet interface specifications
- POTS interface specifications
- RSSI specifications
- Wi-Fi specifications

- ONT optical budget
- SLID entry via Ethernet port
- ONT management using an ONT interface

5.5 G-1425G-A interfaces and interface capacity

Table 5-6, “G-1425G-A indoor ONT interface connection capacity” (p. 55) describes the supported interfaces and interface capacity for G-1425G-A indoor ONTs.

Table 5-6 G-1425G-A indoor ONT interface connection capacity

ONT type and model	Maximum capacity								
	POTS	100/10 BASE-T	1000/100/10 BASE-T	RF video (CATV)	MoCA	VDSL2	E1/T1	Local craft	GPON SC/APC
G-1425G-A [1]	1	—	4	—	—	—	—	—	1

Notes:

1. The G-1425G-A ONTs provide Wi-Fi service that is enabled and disabled using a Wi-Fi on/off switch.

5.5.1 G-1425G-A connections and components

Figure 5-2, “G-1425G-A indoor ONT physical connections (back)” (p. 57) shows the physical connections for G-1425G-A indoor ONTs.

Figure 5-2 G-1425G-A indoor ONT physical connections (back)

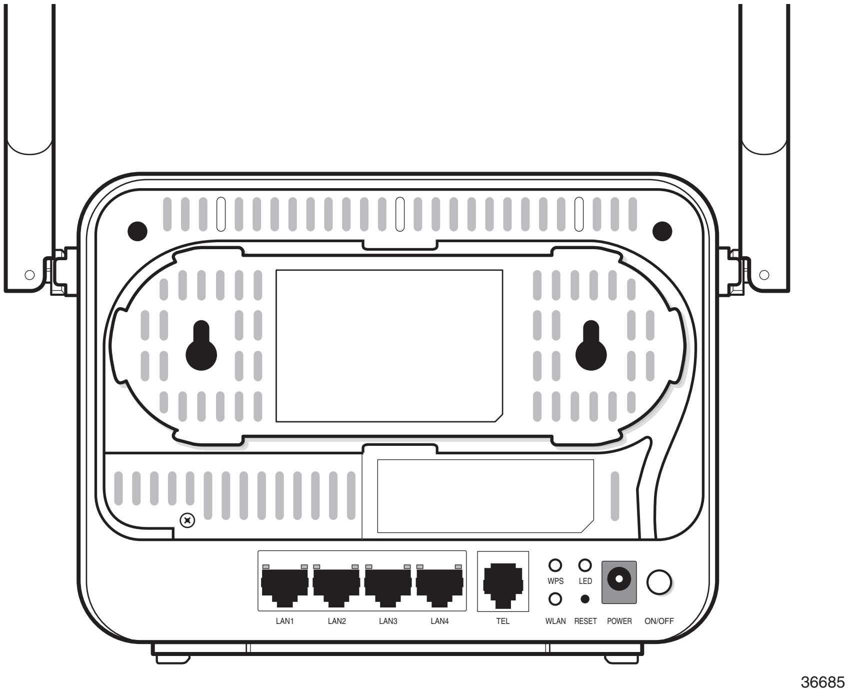

LAN1
LAN2
LAN3
LAN4
TEL
WPS
LED
WLAN
RESET
POWER
ON/OFF
36685

Figure 5-3, “G-1425G-A indoor ONT with fiber optic connector” (p. 58) shows the G-1425G-A indoor ONT with a fiber optic connector.

Figure 5-3 G-1425G-A indoor ONT with fiber optic connector

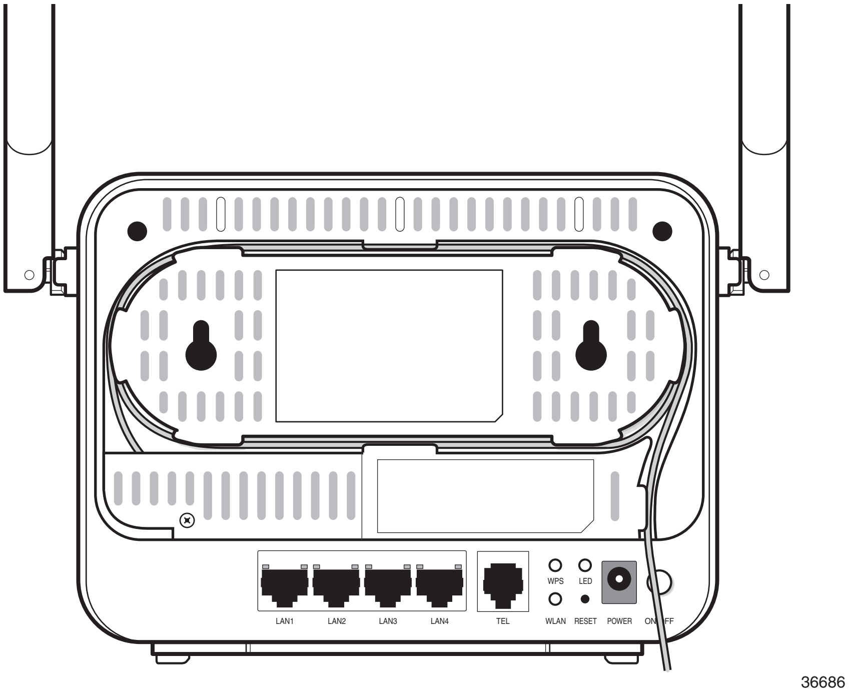


Table 5-7, “G-1425G-A indoor ONT physical connections” (p. 58) describes the physical connections for G-1425G-A indoor ONTs.

Table 5-7 G-1425G-A indoor ONT physical connections

Connection [1]	Print Letters	Description
POTS port	TEL	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 1000/100/10 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.

Table 5-7 G-1425G-A indoor ONT physical connections (continued)

Connection [1]	Print Letters	Description
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.
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.

Notes:

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

5.6 G-1425G-A LEDs

Figure 5-4, "G-1425G-A indoor ONT LEDs" (p. 59) shows the G-1425G-A indoor ONT LEDs.

Figure 5-4 G-1425G-A indoor ONT LEDs

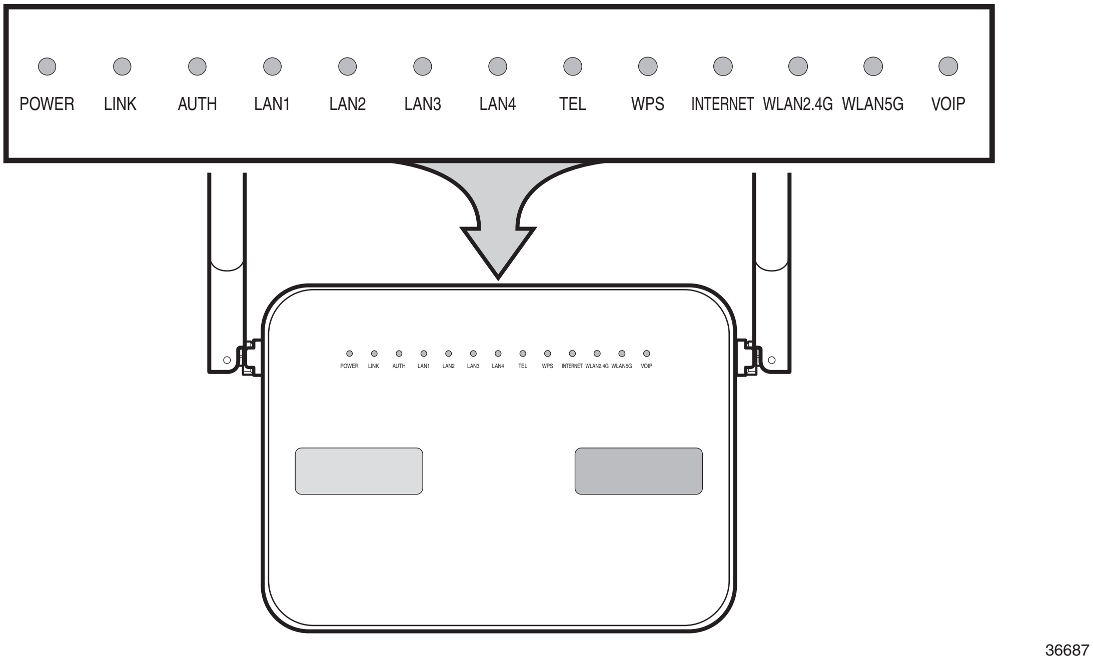


Table 5-8, "G-1425G-A indoor ONT LED descriptions" (p. 60) provides LED descriptions for G-1425G-A indoor ONTs.

Table 5-8 G-1425G-A indoor ONT LED descriptions

Indicator	LED color and behavior	LED behavior description
POWER	Green solid Green flashing Off	Power on Light failed on startup (for example corrupt flash), or selftest failed on startup, or selftest 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	Off Green solid Green flashing	ONT power is off or Ethernet is not connected 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 (traffic in either direction)
TEL	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 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 link down or no link connected (negotiation has not started or has failed). WiFi protected setup processing exception or multiple peers using WPS simultaneously
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
INTERNET	Green solid Green flickering Off	IP connected (the device has a WAN IP address from IPCP/DHCP/Static and Broadband link is up) and no traffic detected. If the IP or PPPoE session is dropped due to an idle timeout, the light will remain green if PON link is still present. If the session is dropped for any other reason, the light is turned off. PPPoE or DHCP connection is in progress. Broadband physical connection power off, device in bridged mode with no IP address assigned to the device, or Broadband physical interface connection not present

5.7 G-1425G-A detailed specifications

Table 5-9, “G-1425G-A indoor ONT physical specifications” (p. 61) lists the physical specifications for G-1425G-A indoor ONTs.

Table 5-9 G-1425G-A indoor ONT physical specifications

Description	Specification
Depth (with external antenna)	1.45 in. (36.9 mm)
Length and Depth of the bottom plate (with external antenna)	1.96 in. (50 mm)
Width (with external antenna)	8.82 in. (224.2 mm)
Height (including antenna) (without antenna)	11.17 in. (283.9 mm) 5.37 in. (136.4 mm)
Weight [within ± 0.5 lb (0.23 kg)] (net weight of ONT) (with internal antenna)	0.82 lbs (372 g)

The following figure shows an example ONT physical specifications. The physical dimension may differ for each ONT model.

Figure 5-5 ONT physical specifications

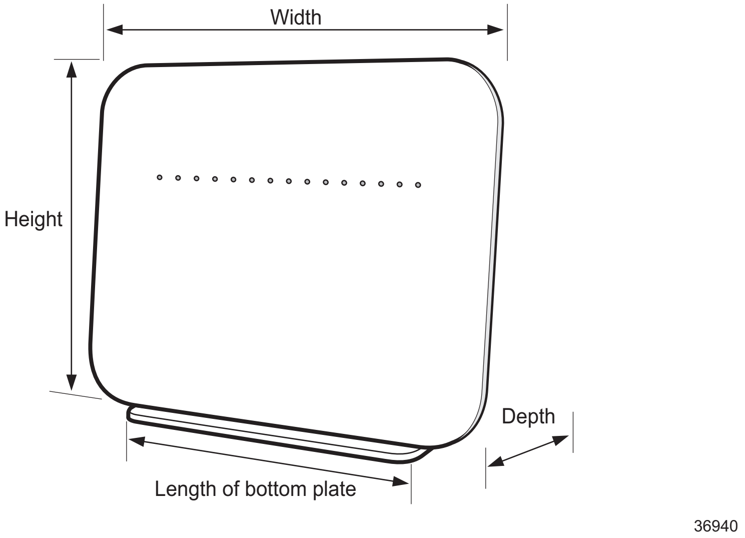


Table 5-10, “G-1425G-A indoor ONT power consumption specifications” (p. 61) lists the power consumption specifications for G-1425G-A indoor ONT.

Table 5-10 G-1425G-A indoor ONT power consumption specifications

Mnemonic	Maximum power (Not to exceed)	Condition	Minimum power	Condition
G-1425G-A [1]	9.6 W	1 POTS off-hook, 4 1000/100/10 Base-T Ethernet, Wi-Fi operational	3.6 W	1 POTS on-hook, other interfaces/services not provisioned

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Notes:

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

Table 5-11, “G-1425G-A indoor ONT environmental specifications” (p. 61) lists the environmental specifications for G-1425G-A indoor ONT.

Table 5-11 G-1425G-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)	

Table 5-12, “G-1425G-A indoor ONT Dimension data specifications” (p. 62) lists the dimension data specifications for G-1425G-A indoor ONT.

Table 5-12 G-1425G-A indoor ONT Dimension data specifications

Dimensions	Specifications
packet size supported	1704 frames
number of IP addresses supported (or ranges)	In LAN network, the supported range is: • IPv4: 192.168.0.2 ~ 192.168.0.254 • IPv6: no limitation
number of supported Wi-Fi clients (per radio, per device, per mesh)	32 per radio, 64 per device, 128 per mesh
number of supported beacons /APs in a mesh	3 beacons in mesh network
number of supported WAN interfaces	Supports 8 WAN connections
number of supported VLANs	Supports 4094 VLANs
number of priority queues, and overall buffer size	128 priority queues. Max 16MB for WAN and 4MB for LAN
number of multicast groups (DACL entries)	1024

5.8 G-1425G-A GEM ports and T-CONTs

Table 5-13, “G-1425G-A indoor ONT capacity for GEM ports and T-CONTs” (p. 62) lists the maximum number of supported T-CONTs and GEM ports. See the appropriate release Customer Release Notes for the most accurate list of supported devices.

Table 5-13 G-1425G-A indoor ONT capacity for GEM ports and T-CONTs

ONT or MDU	Maximum	Notes
Package P ONTs		

Table 5-13 G-1425G-A indoor ONT capacity for GEM ports and T-CONTs (continued)

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

5.9 G-1425G-A performance monitoring statistics

The following section identifies the supported performance monitoring statistics for G-1425G-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:

- Table 5-14, “Package S ONTs ONTENET performance monitoring statistics” (p. 63) provides statistics for ONTENET type counters
- Table 5-15, “Package S ONTs ONTL2UNI performance monitoring statistics” (p. 64) provides statistics for ONTL2UNI type counters
- Table 5-16, “Package S ONTs PONONTTC, PONONTMCTC, PONONTTCHSI, PONONTTCCES, PONONTTCFLOW, PONONTTCVOIP performance monitoring statistics” (p. 64) provides statistics for PONONTTC, PONONTMCTC, PONONTTCHSI, PONONTTCCES, PONONTTCFLOW, and PONONTTCVOIP type counters
- Table 5-17, “Package S ONTs PONONTTC aggregate performance monitoring statistics” (p. 64) provides statistics for PONONTTC aggregate type counters

Note: If you have trouble accessing G-1425G-A ONTs performance monitoring statistics using TL1, please contact your Nokia support representative for more information about how to access and retrieve performance monitoring type counters.

Table 5-14 Package S ONTs ONTENET performance monitoring statistics

ONT	ONTENET statistics													
	FCSE	EC	LC	RBO	SCF	MCF	DT	IMTE	CSE	AE	IMRE	FTL	TBO	SQE
G-1425G-A [1]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓ [2]	✓	✓

Notes:

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

Table 5-15 Package S ONTs ONTL2UNI performance monitoring statistics

ONT	ONTL2UNI statistics									
	FRAMES	BYTES	MCFRAMES	DSDRPDFRMS	USDRPDFRMS	USFRAMES	DSFRAMES	DSBYTES	USMCFRAMES	DSMCFRAMES
G-1425G-A [1]	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Notes:

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

Table 5-16 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-1425G-A [1]	✓	✓	✓	✓	✓	—

Notes:

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

Table 5-17 Package S ONTs PONONTTC aggregate performance monitoring statistics

ONT	PONONTTC (aggregate) statistics					
	TXBLOCKS	TXFRAGS	RXBLOCKS	RXFRAGS	LOSTFRAGS	BADGEMHDRS
G-1425G-A [1]	✓	✓	✓	✓	✓	—

Notes:

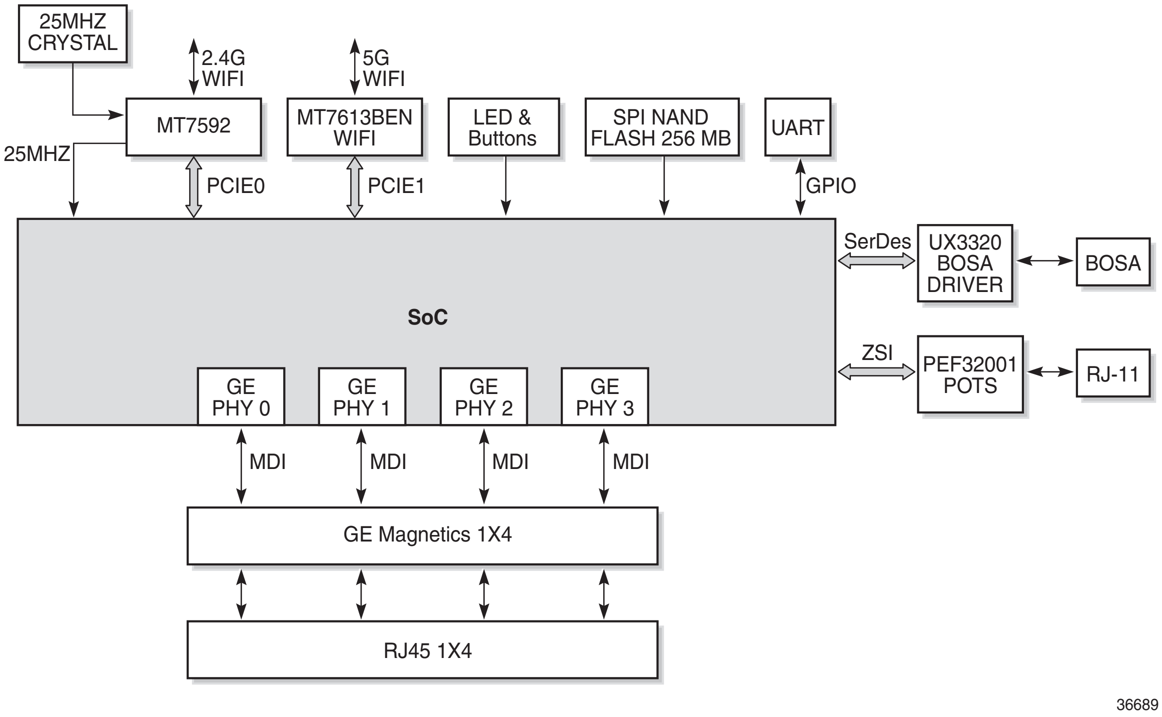
1. A 5 second polling window limitation exists on the ONT, therefore the margin of error for each 15-min window is 5 seconds

5.10 G-1425G-A functional blocks

G-1425G-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, and power connectors.

Figure 5-6, "G-1425G-A ONT functional block" (p. 64) shows the functional blocks for G-1425G-A indoor ONT.

Figure 5-6 G-1425G-A ONT functional block


25MHZ CRYSTAL
2.4G WIFI
5G WIFI
25MHZ
MT7592
MT7613BEN WIFI
LED & Buttons
SPI NAND FLASH 256 MB
UART
PCIE0
PCIE1
GPIO
SerDes
UX3320 BOSA DRIVER
BOSA
SoC
ZSI
PEF32001 POTS
RJ-11
GE PHY 0
GE PHY 1
GE PHY 2
GE PHY 3
MDI
MDI
MDI
MDI
GE Magnetics 1X4
RJ45 1X4
36689

5.11 G-1425G-A standards compliance

G-1425G-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

5.11.1 Energy-related products standby and off modes compliance

Hereby, Nokia declares that the G-1425G-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-1425G-A ONTS qualify as equipment with high network availability (HiNA) functionality. Since the main purpose of G-1425G-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 5.5 "G-1425G-A interfaces and interface capacity" (p. 56) in this chapter.

For information about power consumption, see 5.7 "G-1425G-A detailed specifications" (p. 60) in this chapter.

5.11.2 FCC statement

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

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

5.11.3 FCC Radiation Exposure Statement

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment and it also complies with Part 15 of the FCC RF Rules. This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located 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.

5.12 G-1425G-A special considerations

G-1425G-A is a package P ONT.

5.12.1 Wi-Fi service

G-1425G-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-1425G-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-1425G-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-1425G-A indoor ONTs have HTML-based Wi-Fi configuration GUIs.

5.12.2 G-1425G-A ONT considerations and limitations

Table 5-18, “G-1425G-A ONT considerations and limitations” (p. 67) lists the considerations and limitations for Package P G-1425G-A ONTs.

Table 5-18 G-1425G-A ONT considerations and limitations

Considerations and limitations
Call History Data collection (ONTCALLHST) is supported, except for the following parameters: RTP packets (discarded), far-end RTCP and RTCP-XR participation, RTCP average and peak round trip delay, MOS, average jitter, number of jitter-buffer over-runs and under runs.
Some voice features are configurable on a per ONT basis, including Call Waiting, Call Hold, 3-Way Calling, and Call Transfer.
The maximum value of the ringing AC voltage is 60Vrms, and the ring DC offset voltage is suggested to be 0V.
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

6 Install a G-1425G-A indoor ONT

6.1 Overview

6.1.1 Purpose

6.1.2 Contents

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6.2 Purpose

This chapter provides the steps to install a G-1425G-A indoor ONT.

6.3 General

The steps listed in this chapter describe mounting and cabling for a G-1425G-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 the installation:

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

- optical power meter
- drill and drill bits
- paper clip

6.6 Safety information

Read the following safety information before installing the unit.

DANGER

Hazard

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

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

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

WARNING

Equipment Damage

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

CAUTION

Service Disruption

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

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

Observe the following:

- The indoor ONT should be installed in accordance with the applicable requirements of the NEC or CEC. Local authorities and practices take precedent when there is conflict between the local standard and the NEC or CEC.
- The indoor ONT must be installed by qualified service personnel.
- Indoor ONTs must be installed with cables that are suitably rated and listed for indoor use.
- See the detailed specifications in the Chapter 5, “G-1425G-A unit data sheet” for the temperature ranges of these ONTs.

6.7 Procedure

Use this procedure to install a G-1425G-A indoor ONT.

1

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

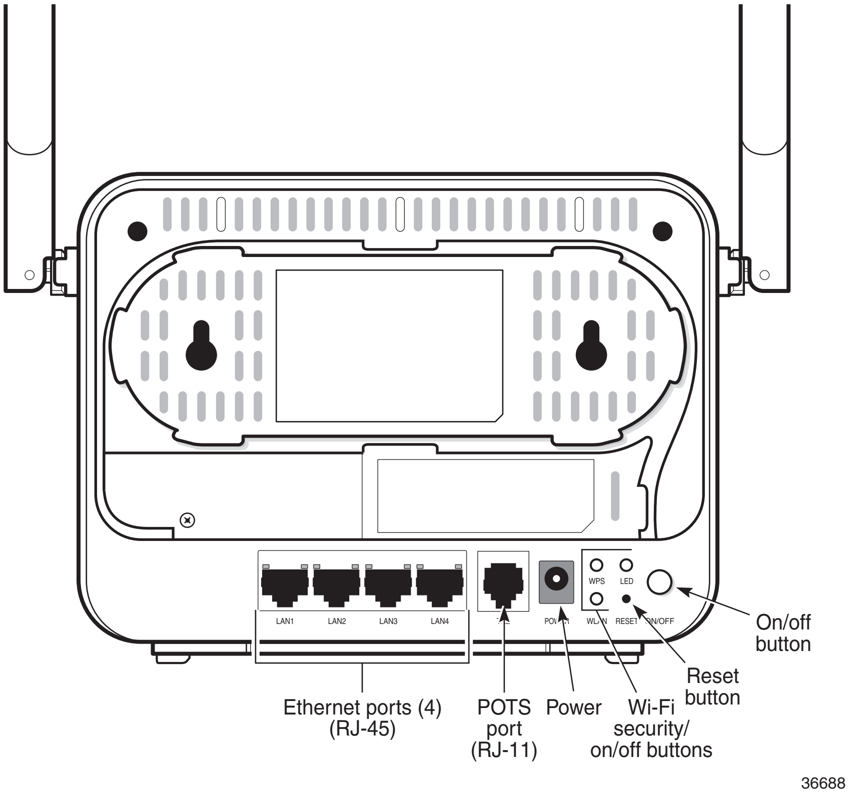
Note: The G-1425G-A cannot be stacked with another ONT or with other equipment. The ONT mounting requirements are:

- 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 6-1, “G-1425G-A ONT connections” (p. 70).

Figure 6-1 G-1425G-A ONT connections


LAN1
LAN2
LAN3
LAN4
WPS
LED
POWER
WLAN
RESET
ON/OFF
On/off button
Reset button
Ethernet ports (4) (RJ-45)
POTS port (RJ-11)
Power
Wi-Fi security/ on/off buttons
36688

3

Connect the Ethernet cables to the RJ-45 ports.

4

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

5

DANGER

Hazard

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

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.

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 6-1, “G-1425G-A ONT connections” (p. 71) 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 **Nokia ONT Hardware and Cabling Installation Guide**.

10

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

11

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

12

If necessary, reset the ONT.

a. Locate the Reset button on a G-1425G-A indoor ONT as shown in Figure 6-1, “G-1425G-A ONT connections” (p. 71).

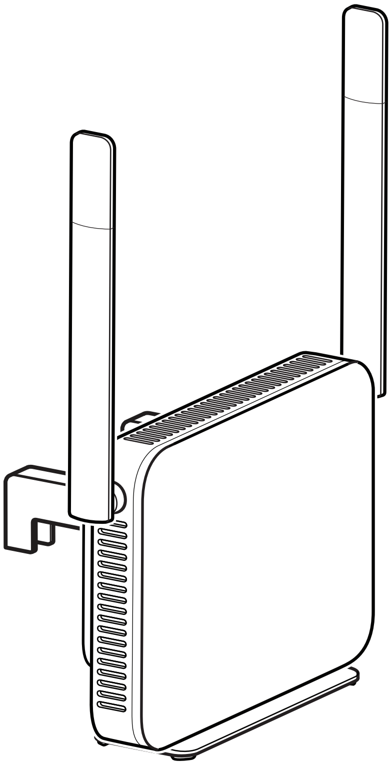
b. Insert the end of a straightened paper clip or other narrow object into the hole in the Reset button to reset the ONT.

END OF STEPS

6.8 Wall mount an G-1425G-A indoor ONT

This chapter provides the steps to mount an G-1425G-A indoor ONT on a wall using a wall mount bracket (3FE 49555 AA). The G-1425G-A indoor ONT is shipped without the wall mount bracket. The wall mount bracket (3FE 49555 AA) must be ordered separately.

Figure 6-2 G-1425G-A ONT in wall mounting bracket



6.8.1 Recommended tools

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

6.8.2 Procedure

Use this procedure to mount an G-1425G-A ONT on a wall. Two installation options are available:

- Option 1—facing the room for the LEDs to be visible
- Option 2—facing the wall for the connectors and buttons to be visible

1

Place the indoor ONT unit:

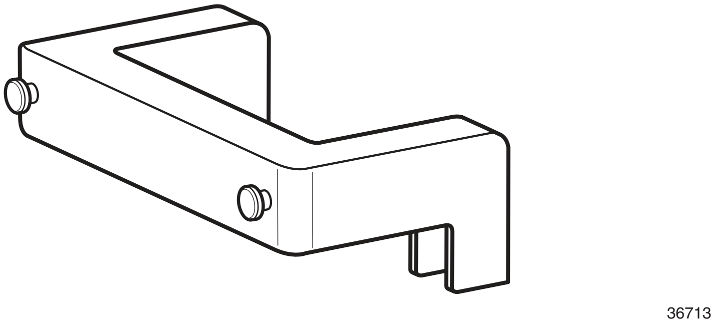
a. Facing the room, go to Step 2. See Figure 6-7, "ONT in wall mount bracket—facing the room" (p. 78).

b. Facing the wall, go to Step 3. See Figure 6-6, "ONT to wall mount connection" (p. 77).

2

Mount the ONT on a wall facing the room using the wall mount bracket (3FE 49555 AA), as shown in Figure 6-3, "G-1425G-A wall mount bracket" (p. 73).

Figure 6-3 G-1425G-A wall mount bracket



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

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

b. Drill two holes 35 mm (1.37 in.) depth into the wall and with the centers spaced 157 mm (6.2 in.).

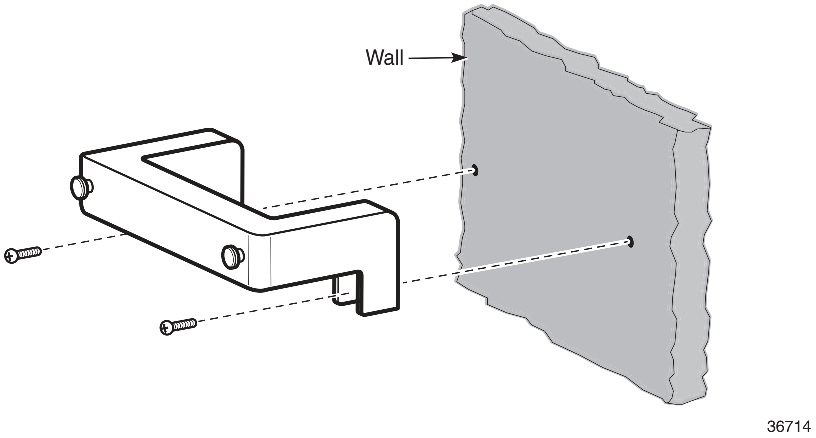
c. Insert the two mounting screws and optional anchors into the holes, leaving a 2 mm (0.078 in.) gap between the screw head and the wall.

d. At this point, perform a test to ensure that the wall mount bracket fits securely over the screw heads. Mount the bracket flush to the wall so that it does not warp or twist.

e. Remove the wall mount bracket from the wall.

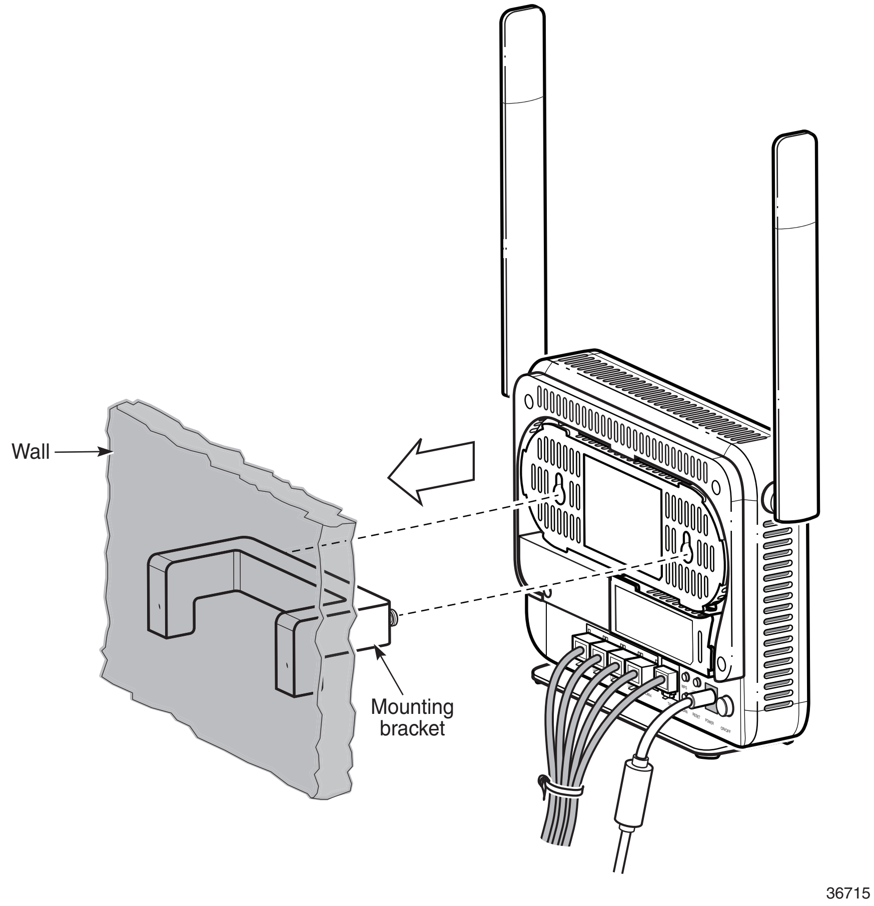
f. Route the power cord through the slot in the wall mount bracket. The ferrite bead on the power cord should remain on the underside of the wall mount bracket. See Figure 6-4, “Wall mount bracket power cord placement” (p. 74).

Figure 6-4 Wall mount bracket power cord placement



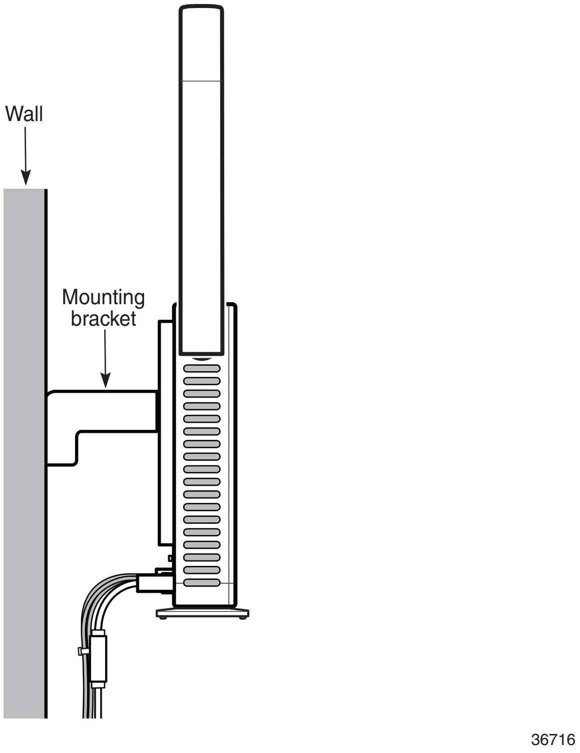
Connect the power cord to the G-1425G-A ONT. See Figure 6-5, “Power cord to ONT connection” (p. 76).

Figure 6-5 Power cord to ONT connection



g. Install the ONT into the wall mount bracket by lifting the unit above the bracket and sliding it downward onto the bottom ledge of the bracket. See Figure 6-6, “ONT to wall mount connection” (p. 77).

Figure 6-6 ONT to wall mount connection

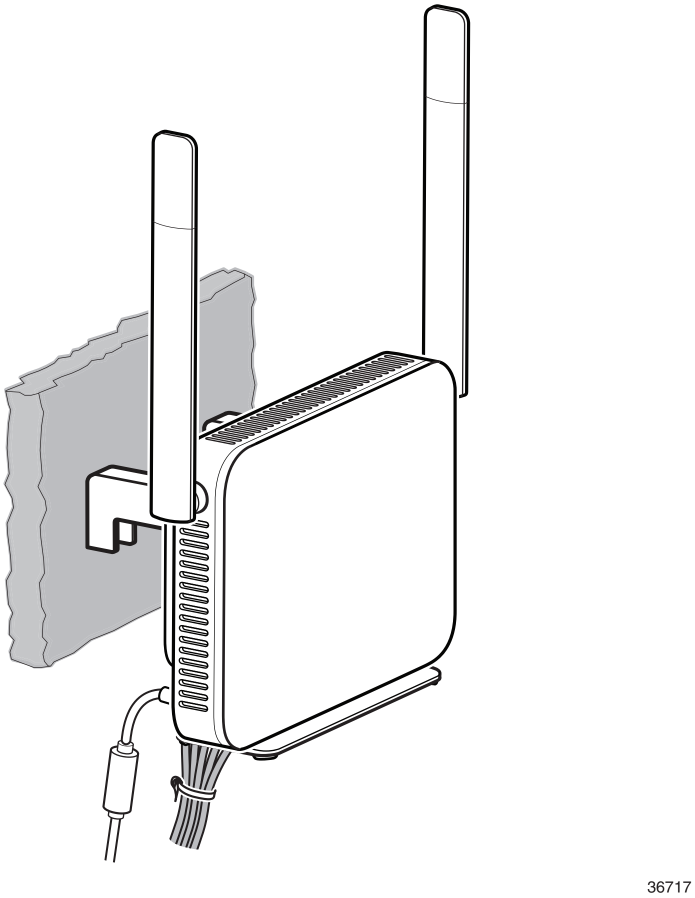


h. Seat the ONT into the wall mount bracket by engaging the hooks on the base of the unit with those on the bracket; see Figure 6-7, “ONT in wall mount bracket—facing the room” (p. 78). Engaging the hooks ensures that the ONT stays in place while the unit is mounted onto the wall.

i. Connect the cables.

j. Hang the unit onto the wall. Figure 6-7, “ONT in wall mount bracket—facing the room” (p. 78) shows the cables routed through the wall mount bracket and the ONT facing the room.

Figure 6-7 ONT in wall mount bracket—facing the room



3

Mount the ONT facing the wall using the wall mount bracket (3FE 49555 AA).

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

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

b. Drill two holes 35 mm (1.37 in.) depth into the wall and with the centers spaced 157 mm (6.2 in.).

c. Insert the two mounting screws and optional anchors into the holes, leaving a 2 mm (0.078 in.) gap between the screw head and the wall.

d. At this point, perform a test to ensure that the wall mount bracket fits securely over the screw heads. Mount the bracket flush to the wall so that it does not warp or twist.

e. Remove the wall mount bracket from the wall.

f. On a flat surface such as a desk, install the ONT into the wall mount bracket by lifting the unit above the bracket and sliding it downward onto the bottom ledge of the bracket.

g. Seat the ONT into the wall mount bracket by engaging the hooks on the base of the unit with those on the bracket. Engaging the hooks ensures that the ONT stays in place while the unit is mounted onto the wall.

h. Mount the unit onto the wall.

i. Connect the cables. See Chapter 6, “Install a G-1425G-A indoor ONT”.

Figure 6-5, “Power cord to ONT connection” (p. 76) shows the mounted unit facing the wall with the cables (including the fiber) installed.

END OF STEPS

7 Replace a G-1425G-A indoor ONT

7.1 Overview

7.1.1 Purpose

7.1.2 Contents

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7.2 Purpose

This chapter provides the steps to replace a G-1425G-A indoor ONT.

7.3 General

The steps listed in this chapter describe mounting and cabling for a G-1425G-A indoor ONT.

7.4 Prerequisites

You need the following items before beginning the installation:

- all required cables

7.5 Recommended tools

You need the following tools for replacing the ONT:

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

- drill and drill bits

7.6 Safety information

Read the following safety information before replacing the unit.

DANGER

Hazard

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

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

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

WARNING

Equipment Damage

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

CAUTION

Service Disruption

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

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

Observe the following:

- The indoor ONT should be installed in accordance with the applicable requirements of the NEC or CEC. Local authorities and practices take precedent when there is conflict between the local standard and the NEC or CEC.
- The indoor ONT must be installed by qualified service personnel.
- Indoor ONTs must be installed with cables that are suitably rated and listed for indoor use.
- See the detailed specifications in the Chapter 5, “G-1425G-A unit data sheet” for the temperature ranges of these ONTs.

7.7 Procedure

Use this procedure to replace a G-1425G-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-1-1-1-1-1;
```

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

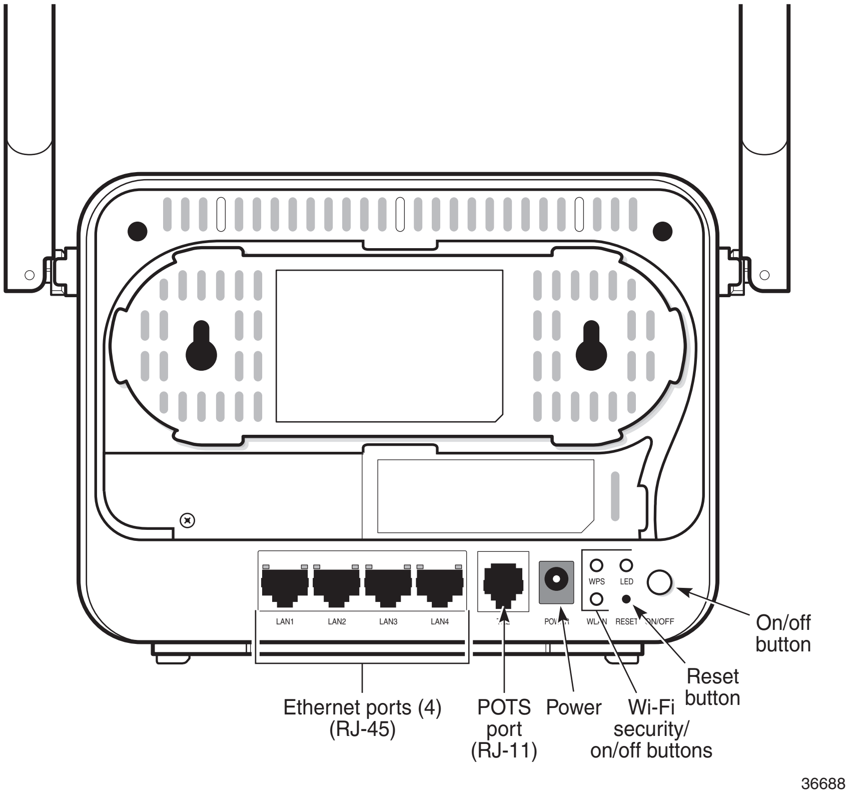
   Example:

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

2

If used, disable the Wi-Fi service by pressing the WLAN button. The following figure shows the location of the WLAN button.

Figure 7-1 G-1425G-A indoor ONT connections


LAN1
LAN2
LAN3
LAN4
POWER
WPS
LED
WLAN
RESET
ON/OFF
On/off button
Reset button
Ethernet ports (4) (RJ-45)
POTS port (RJ-11)
Power
Wi-Fi security/ on/off buttons
36688

3

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

4

Disconnect the POTS, Ethernet, and power cables from the ONT; see Figure 7-1, “G-1425G-A indoor ONT connections” (p. 83) for the connector locations on the G-1425G-A indoor ONT.

5

DANGER

Hazard

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

Disconnect the fiber optic cables.

a. Unplug the fiber optic cable with SC/APC connector from the bottom of the ONT.

b. Attach a fiber dust cover to the end of the SC/APC connector.

6

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

7

Connect the Ethernet cables directly to the RJ-45 ports; see Figure 7-1, “G-1425G-A indoor ONT connections” (p. 83) for the location of the RJ-45 ports.

8

Connect the POTS cable directly to the RJ-11 port as per local practices; see Figure 7-1, “G-1425G-A indoor ONT connections” (p. 83) for the location of the RJ-11 ports.

9

DANGER

Hazard

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

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

10

DANGER

Hazard

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

WARNING

Equipment Damage

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

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

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

11

Connect the power cable to the power connector.

12

Power up the unit by using the power switch.

13

If used, enable the Wi-Fi service by pressing the WLAN button; see Figure 7-1, “G-1425G-A indoor ONT connections” (p. 83) for the location of the WLAN button.

14

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

Note: A new SLID or the old SLID may be used with the replacement ONT.
If a new SLID is used, the new SLID must also be programmed at the P-OLT using TL1 or a network manager.
If the old SLID is used, no changes need to be made at the P-OLT; see the operations and maintenance documentation for the OLT for more details.

15

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

16

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

17

If necessary, reset the ONT.

a. Locate the Reset button on a G-1425G-A indoor ONT as shown in Figure 7-1, “G-1425G-A indoor ONT connections” (p. 83).

b. Insert the end of a straightened paper clip or other narrow object into the hole in the Reset button to reset the ONT.

END OF STEPS

8 Configure a G-1425G-A indoor ONT

8.1 Overview

8.1.1 Purpose

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GUI configuration

8.2 General configuration

Refer to the configuration information provided with your OLT for the software configuration procedure for a G-1425G-A ONT.

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

8.3 HGU mode GUI configuration

Use the procedures below to use the web-based GUI for the G-1425G-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-1425G-A ONTs support TLSv1.2 for WEBGUI (HTTPS).

8.4 Log in to the web-based GUI

Use the procedure below to login to the web-based GUI for the G-1425G-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

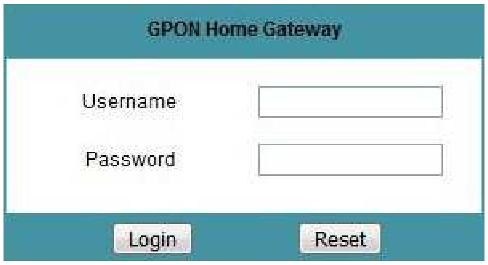
Service Disruption

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.

Figure 8-1 Web login page



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

3

Click **Login**. The Device Information page displays.

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

END OF STEPS

Viewing device information and connection status

8.5 Overview

8.5.1 Purpose

This chapter describes procedures to view device information and connection status on the G-1425G-A.

8.5.2 Contents

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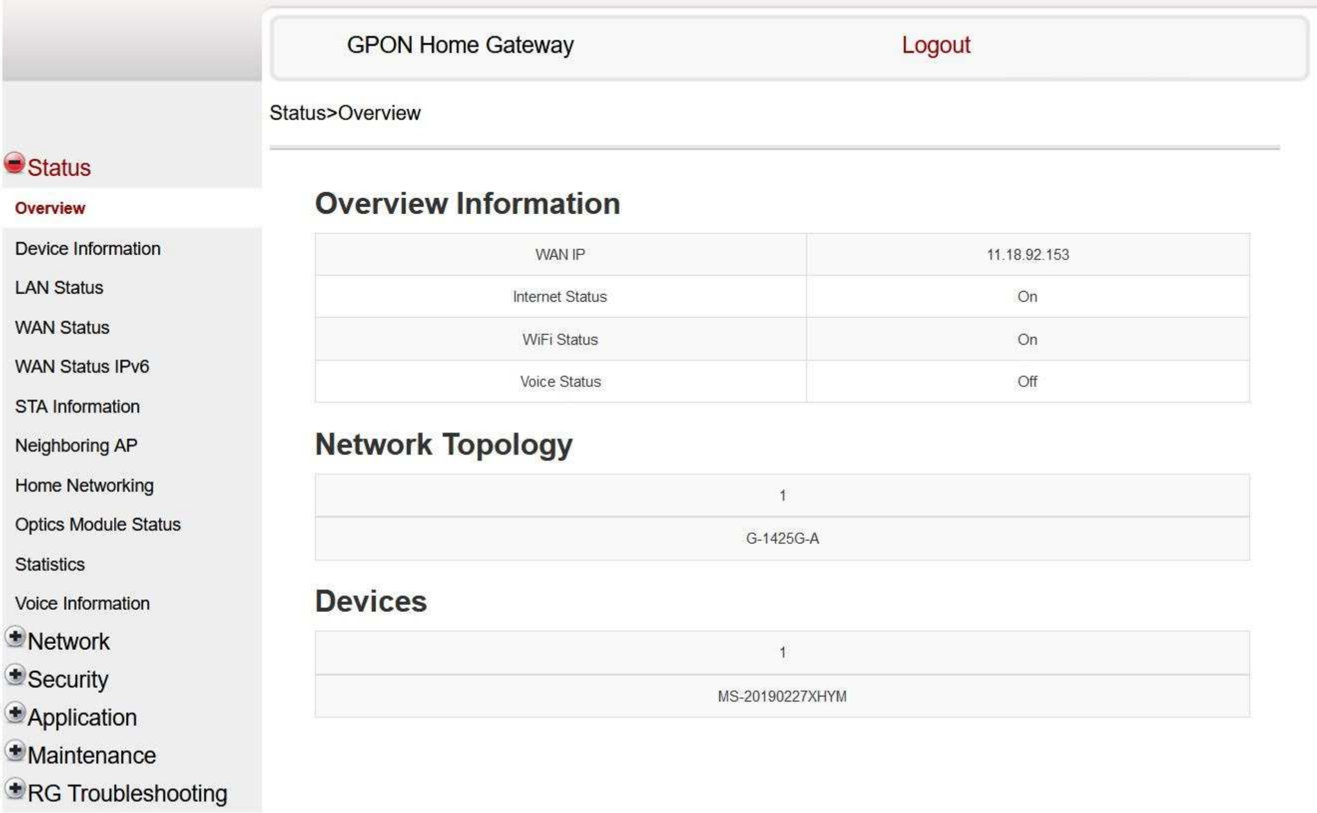
8.6 Overview

1

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

Figure 8-2 Overview page


GPON Home Gateway
Logout
Status>Overview
Status
Overview
Device Information
LAN Status
WAN Status
WAN Status IPv6
STA Information
Neighboring AP
Home Networking
Optics Module Status
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Overview Information

WAN IP	11.18.92.153
Internet Status	On
WiFi Status	On
Voice Status	Off

Network Topology

1
G-1425G-A

Devices

1
MS-20190227XHYM

Table 8-1 Overview parameters

Field	Description
Overview Information	
WAN IP	IP WAN address of the G-1425G-A.
Internet Status	Indicates whether or not the G-1425G-A associated with the IP WAN address is on the Internet
WiFi Status	Indicates whether or not the G-1425G-A associated with the IP WAN address is on WiFi
Voice Status	Indicates whether or not the G-1425G-A associated with the IP WAN address is on Voice
Network Topology	
Displays the port number, type, and serial number of the network topology	
Devices	
Displays the port and serial number of the devices	

2

Ensure that you are connected to the Internet.

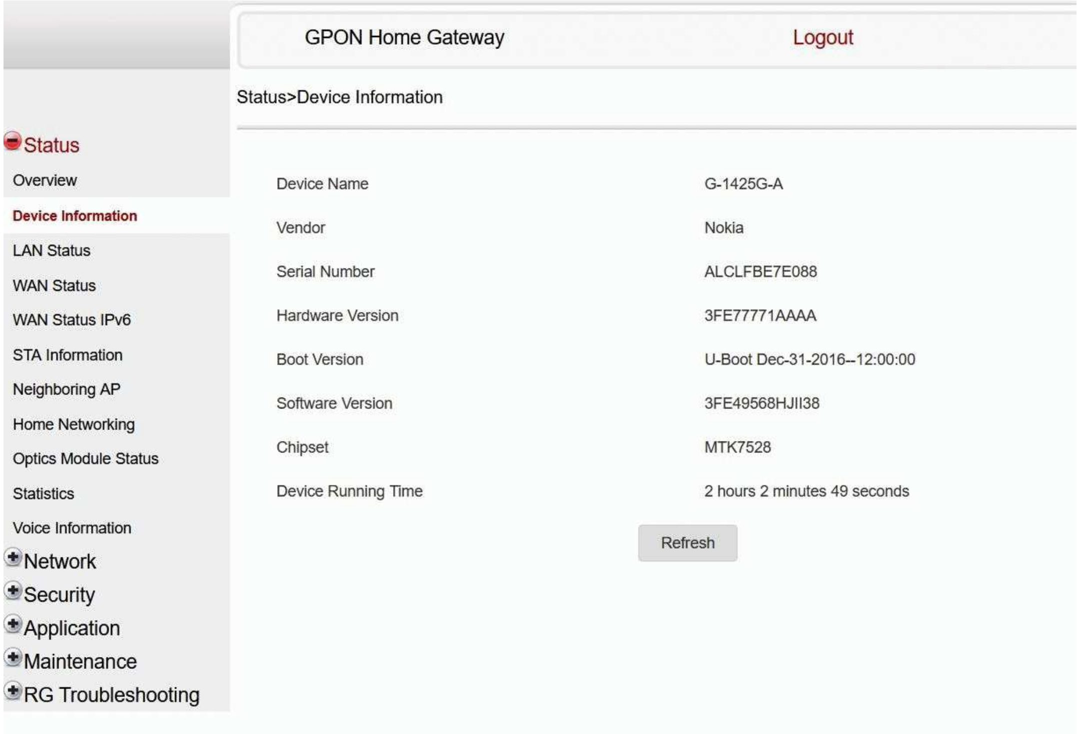
END OF STEPS

8.7 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:

Figure 8-3 Device Information page


GPON Home Gateway
Logout
Status>Device Information
Status
Overview
Device Information
LAN Status
WAN Status
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Refresh

Device Name	G-1425G-A
Vendor	Nokia
Serial Number	ALCLFBE7E088
Hardware Version	3FE77771AAAA
Boot Version	U-Boot Dec-31-2016--12:00:00
Software Version	3FE49568HJIl38
Chipset	MTK7528
Device Running Time	2 hours 2 minutes 49 seconds

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.

Table 8-2 Device Information parameters

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

2

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

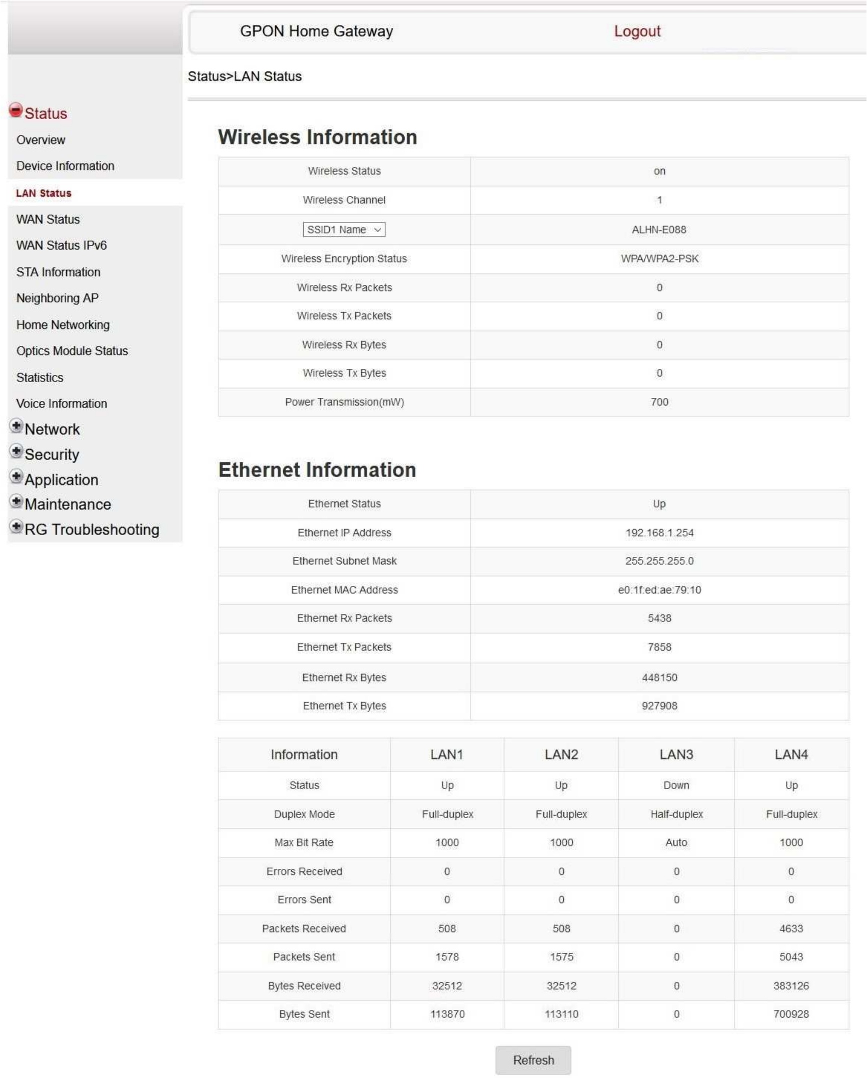
END OF STEPS

8.8 Viewing LAN status

1

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

Figure 8-4 LAN Status page


GPON Home Gateway
Logout
Status>LAN Status
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Wireless Information

Wireless Status	on
Wireless Channel	1
SSID1 Name	ALHN-E088
Wireless Encryption Status	WPA/WPA2-PSK
Wireless Rx Packets	0
Wireless Tx Packets	0
Wireless Rx Bytes	0
Wireless Tx Bytes	0
Power Transmission(mW)	700

Ethernet Information

Ethernet Status	Up
Ethernet IP Address	192.168.1.254
Ethernet Subnet Mask	255.255.255.0
Ethernet MAC Address	e0:1f:ed:ae:79:10
Ethernet Rx Packets	5438
Ethernet Tx Packets	7858
Ethernet Rx Bytes	448150
Ethernet Tx Bytes	927908

Information	LAN1	LAN2	LAN3	LAN4
Status	Up	Up	Down	Up
Duplex Mode	Full-duplex	Full-duplex	Half-duplex	Full-duplex
Max Bit Rate	1000	1000	Auto	1000
Errors Received	0	0	0	0
Errors Sent	0	0	0	0
Packets Received	508	508	0	4633
Packets Sent	1578	1575	0	5043
Bytes Received	32512	32512	0	383126
Bytes Sent	113870	113110	0	700928

Table 8-3 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

Table 8-3 LAN Status parameters (continued)

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

2

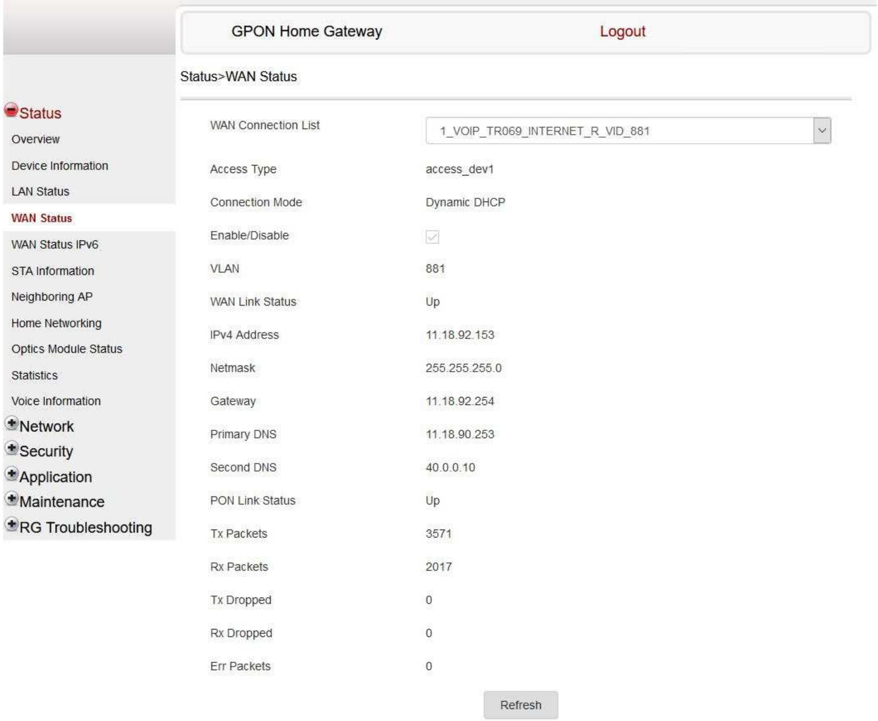
Click **Refresh** to display up-to-date information.

END OF STEPS

8.9 Viewing WAN status

1

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


GPON Home Gateway
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WAN Connection List	1_VOIP_TR069_INTERNET_R_VID_881
Access Type	access_dev1
Connection Mode	Dynamic DHCP
Enable/Disable	☑
VLAN	881
WAN Link Status	Up
IPv4 Address	11.18.92.153
Netmask	255.255.255.0
Gateway	11.18.92.254
Primary DNS	11.18.90.253
Second DNS	40.0.0.10
PON Link Status	Up
Tx Packets	3571
Rx Packets	2017
Tx Dropped	0
Rx Dropped	0
Err Packets	0

Figure 8-5 WAN Status page

Table 8-4 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
Primary DNS	Primary Domain Name Server
Second DNS	Secondary Domain Name Server
Manual DNS	Manual Domain Name Server
PON Link Status	Whether the PON link is up or down

Table 8-4 WAN Status parameters (continued)

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

2

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

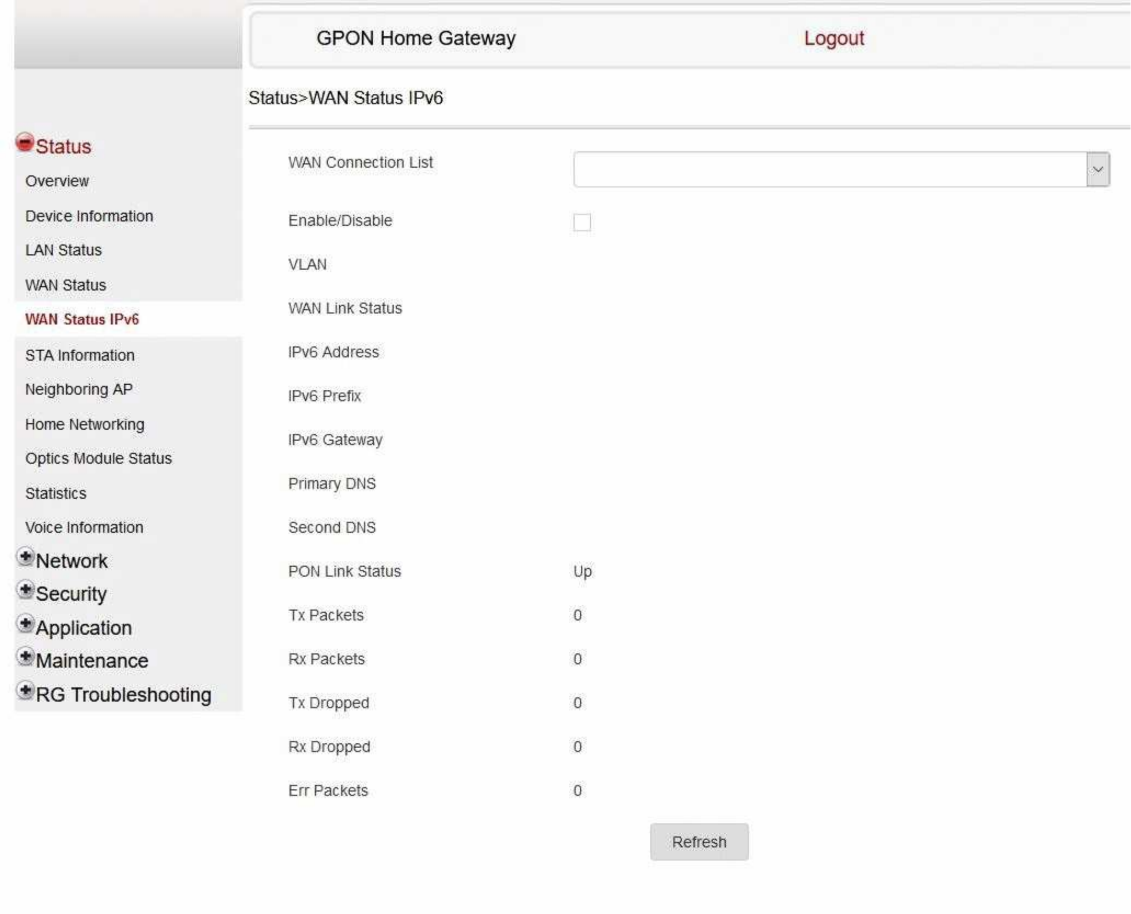
END OF STEPS

8.10 Viewing WAN IPv6 status

1

Click **Status→WAN Status IPv6** from the left pane in the GPON Home Gateway page. The WAN Status IPv6 page displays the following information:

Figure 8-6 WAN Status IPv6 page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Status>WAN Status IPv6

WAN Connection List	
Enable/Disable	☐
VLAN	
WAN Link Status	
IPv6 Address	
IPv6 Prefix	
IPv6 Gateway	
Primary DNS	
Second DNS	
PON Link Status	Up
Tx Packets	0
Rx Packets	0
Tx Dropped	0
Rx Dropped	0
Err Packets	0

Table 8-5 WAN Status IPv6 parameters

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

Table 8-5 WAN Status IPv6 parameters (continued)

Field	Description
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.

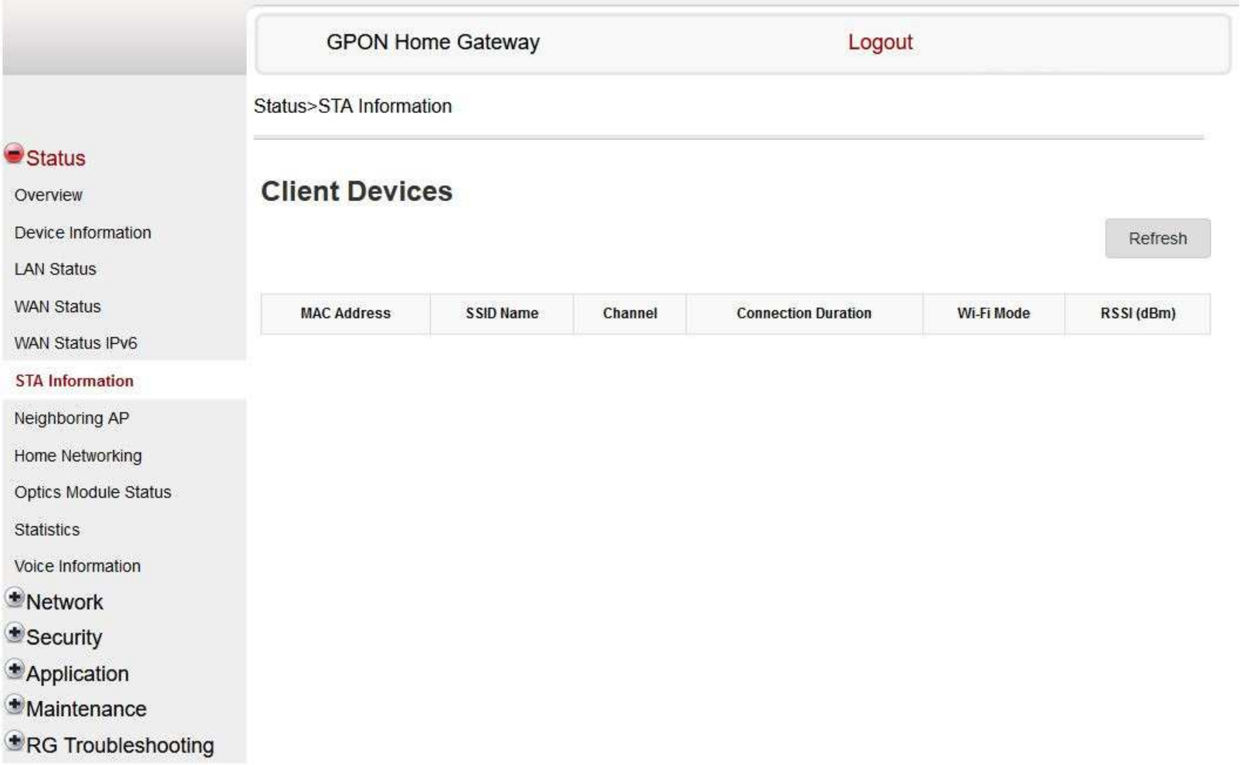
END OF STEPS

8.11 Viewing STA information

1

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

Figure 8-7 STA Information page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MAC Address	SSID Name	Channel	Connection Duration	Wi-Fi Mode	RSSI (dBm)

Table 8-6 STA information parameters

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

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

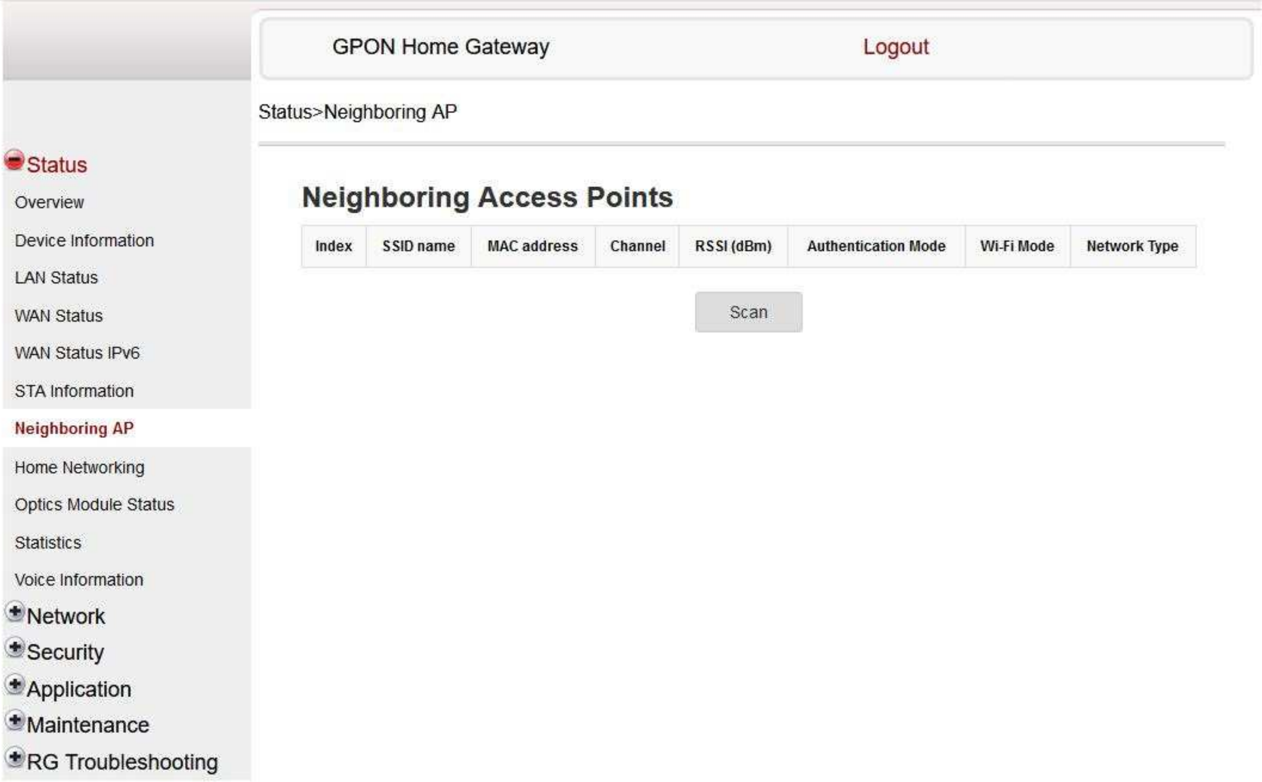
END OF STEPS

8.12 Viewing Neighboring Access Points

1

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

Figure 8-8 Neighboring AP page



GPON Home Gateway
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Neighboring Access Points

Index	SSID name	MAC address	Channel	RSSI (dBm)	Authentication Mode	Wi-Fi Mode	Network Type

Table 8-7 Neighboring AP parameters

Field	Description
Index	Name of the index
SSID name	Name of each SSID
MAC address	MAC address of the Ethernet connection
Channel	Indicates the channel number
RSSI (dBm)	Indicates the received signal strength

Table 8-7 Neighboring AP parameters (continued)

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

2

Click **Scan**.

END OF STEPS

8.13 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:

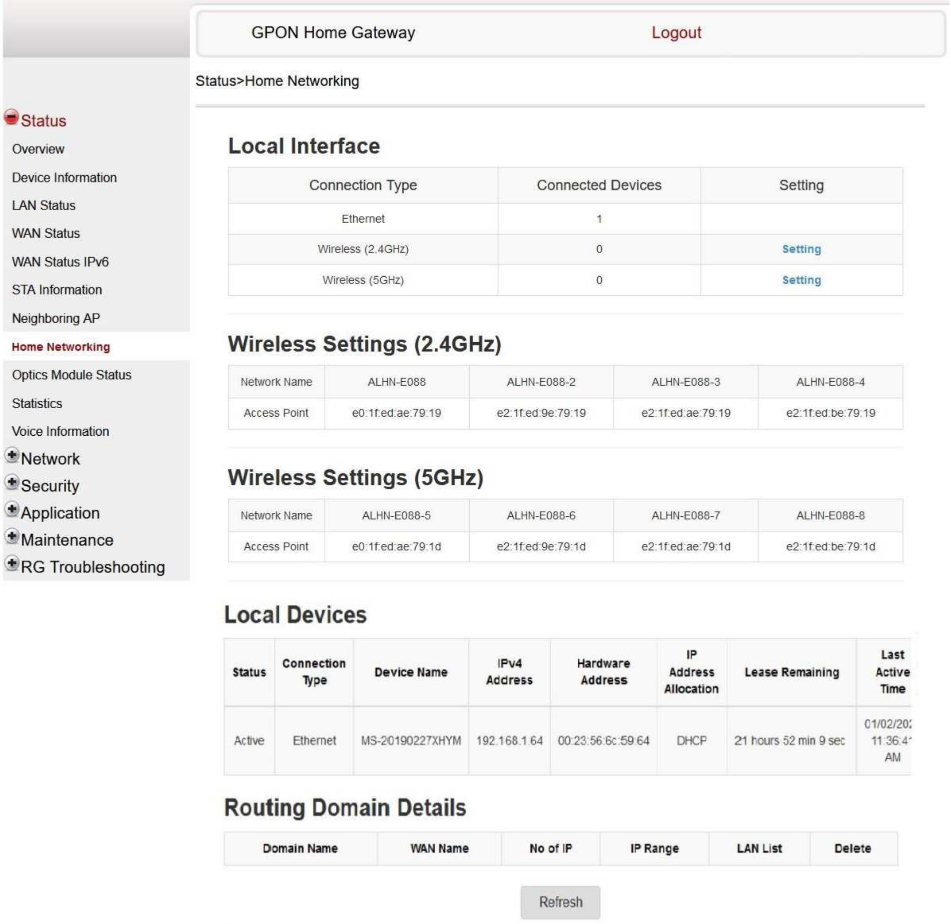
GPON Home Gateway
Logout
Status>Home Networking
Status
Overview
Device Information
LAN Status
WAN Status
WAN Status IPv6
STA Information
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Figure 8-9 Home Networking page

Local Interface

Connection Type	Connected Devices	Setting
Ethernet	1	
Wireless (2.4GHz)	0	Setting
Wireless (5GHz)	0	Setting

Wireless Settings (2.4GHz)

Network Name	ALHN-E088	ALHN-E088-2	ALHN-E088-3	ALHN-E088-4
Access Point	e0:1f:ed:ae:79:19	e2:1f:ed:9e:79:19	e2:1f:ed:ae:79:19	e2:1f:ed:be:79:19

Wireless Settings (5GHz)

Network Name	ALHN-E088-5	ALHN-E088-6	ALHN-E088-7	ALHN-E088-8
Access Point	e0:1f:ed:ae:79:1d	e2:1f:ed:9e:79:1d	e2:1f:ed:ae:79:1d	e2:1f:ed:be:79:1d

Local Devices

Status	Connection Type	Device Name	IPv4 Address	Hardware Address	IP Address Allocation	Lease Remaining	Last Active Time
Active	Ethernet	MS-20190227XHYM	192.168.1.64	00:23:56:6c:59:64	DHCP	21 hours 52 min 9 sec	01/02/20 11:36:4 AM

Routing Domain Details

Domain Name	WAN Name	No of IP	IP Range	LAN List	Delete

Table 8-8 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 (2.4GHz and 5GHz)	
Network Name	Name of the wireless network
Access Point	Hexadecimal address of the wireless access point
Local Devices	

Table 8-8 Home Networking parameters (continued)

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

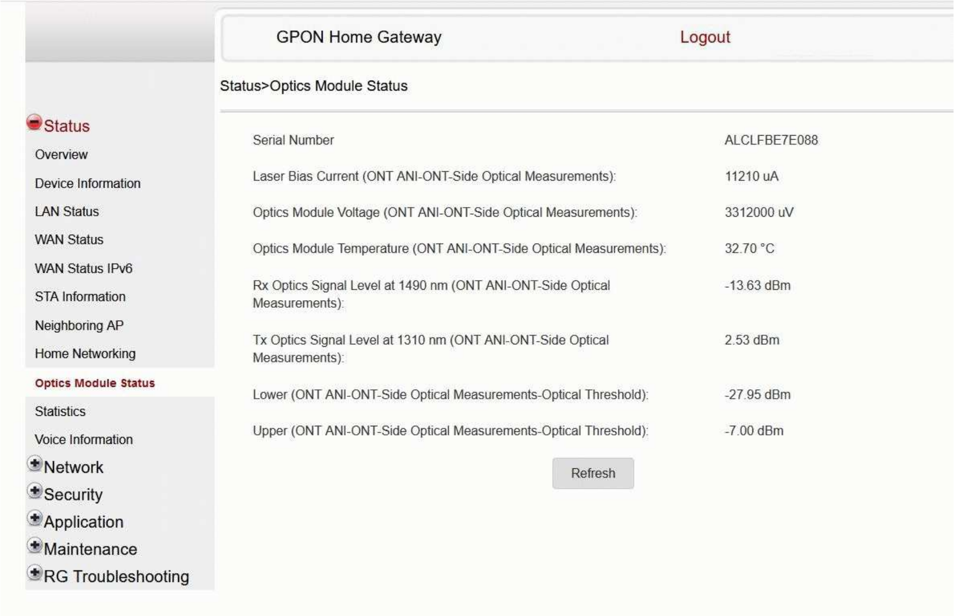
END OF STEPS

8.14 Viewing Optics module status

1

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

Figure 8-10 Optics Module Status page


GPON Home Gateway
Logout
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Serial Number	ALCLFBE7E088
Laser Bias Current (ONT ANI-ONT-Side Optical Measurements):	11210 uA
Optics Module Voltage (ONT ANI-ONT-Side Optical Measurements):	3312000 uV
Optics Module Temperature (ONT ANI-ONT-Side Optical Measurements):	32.70 °C
Rx Optics Signal Level at 1490 nm (ONT ANI-ONT-Side Optical Measurements):	-13.63 dBm
Tx Optics Signal Level at 1310 nm (ONT ANI-ONT-Side Optical Measurements):	2.53 dBm
Lower (ONT ANI-ONT-Side Optical Measurements-Optical Threshold):	-27.95 dBm
Upper (ONT ANI-ONT-Side Optical Measurements-Optical Threshold):	-7.00 dBm

Table 8-9 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

2

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

END OF STEPS

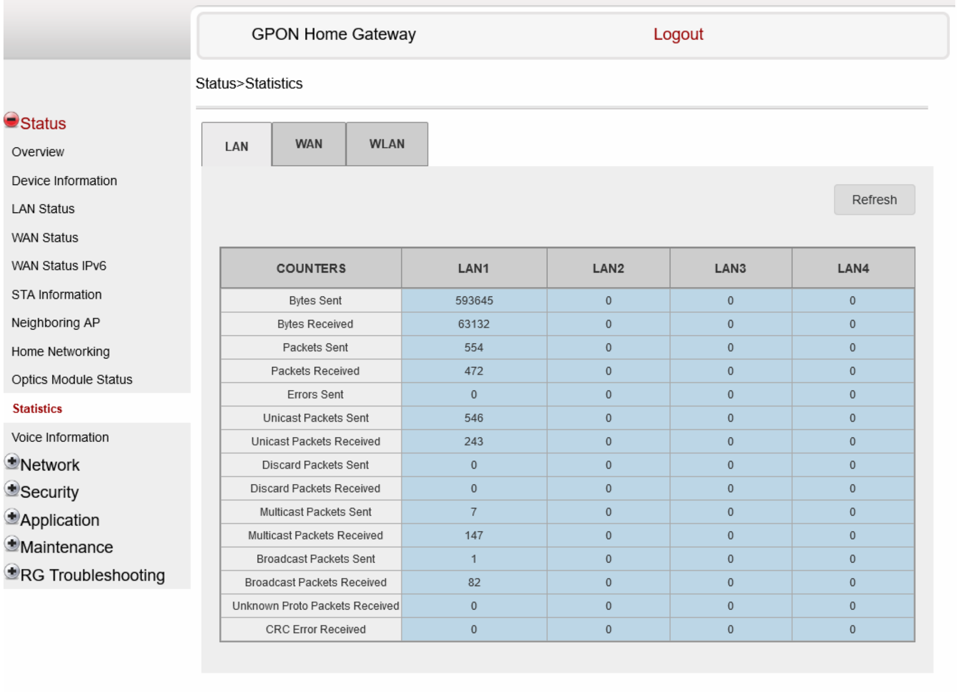
8.15 Viewing statistics

1

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

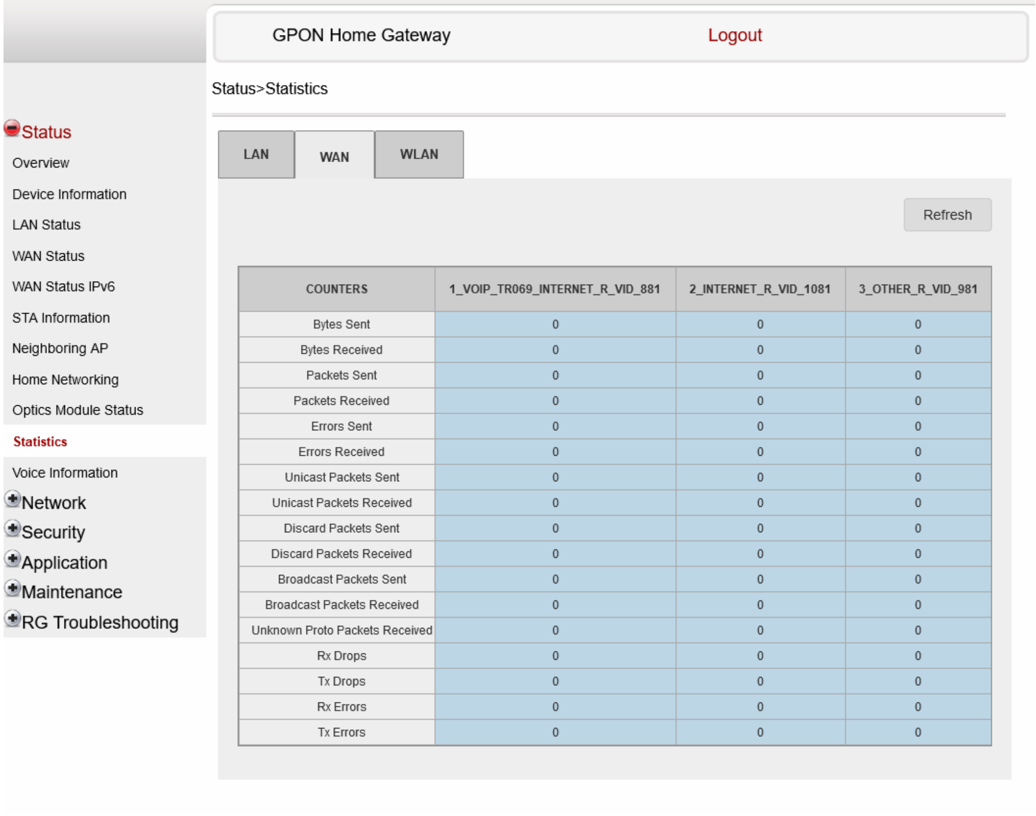
Select the **LAN** tab, **WAN** tab or **WLAN** tab to view the respective ports.

Figure 8-11 LAN Statistics page


GPON Home Gateway
Logout
Status>Statistics
Status
Overview
Device Information
LAN Status
WAN Status
WAN Status IPv6
STA Information
Neighboring AP
Home Networking
Optics Module Status
Statistics
Voice Information
Network
Security
Application
Maintenance
RG Troubleshooting
LAN
WAN
WLAN
Refresh

COUNTERS	LAN1	LAN2	LAN3	LAN4
Bytes Sent	593645	0	0	0
Bytes Received	63132	0	0	0
Packets Sent	554	0	0	0
Packets Received	472	0	0	0
Errors Sent	0	0	0	0
Unicast Packets Sent	546	0	0	0
Unicast Packets Received	243	0	0	0
Discard Packets Sent	0	0	0	0
Discard Packets Received	0	0	0	0
Multicast Packets Sent	7	0	0	0
Multicast Packets Received	147	0	0	0
Broadcast Packets Sent	1	0	0	0
Broadcast Packets Received	82	0	0	0
Unknown Proto Packets Received	0	0	0	0
CRC Error Received	0	0	0	0

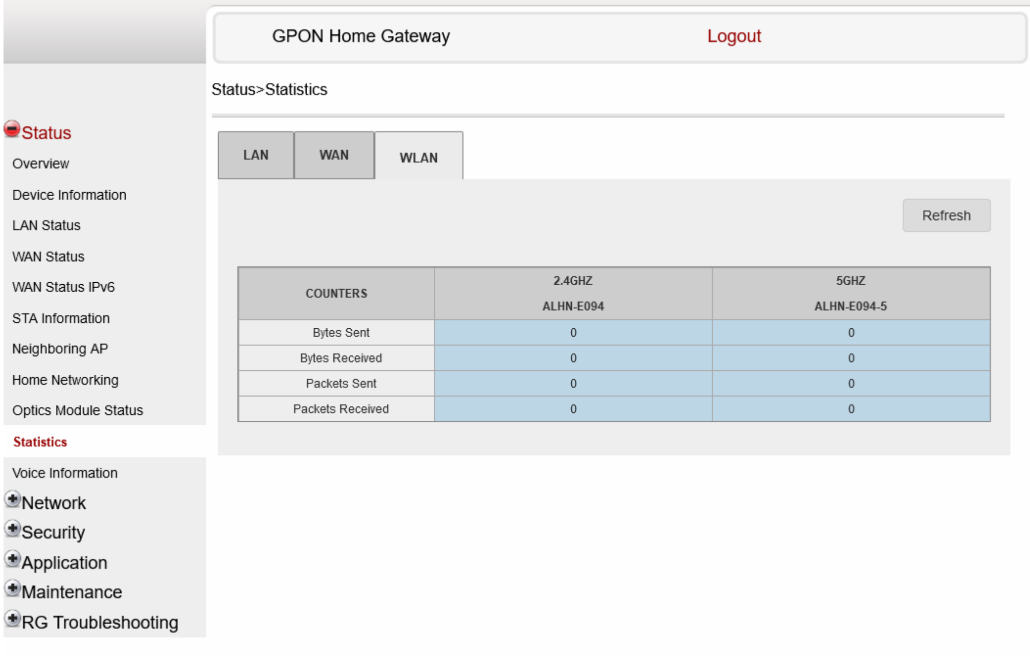
Figure 8-12 WAN Statistics page


GPON Home Gateway
Logout
Status
Overview
Device Information
LAN Status
WAN Status
WAN Status IPv6
STA Information
Neighboring AP
Home Networking
Optics Module Status
Statistics
Voice Information
Network
Security
Application
Maintenance
RG Troubleshooting
LAN
WAN
WLAN
Refresh

Status>Statistics

COUNTERS	1_VOIP_TR069_INTERNET_R_VID_881	2_INTERNET_R_VID_1081	3_OTHER_R_VID_981
Bytes Sent	0	0	0
Bytes Received	0	0	0
Packets Sent	0	0	0
Packets Received	0	0	0
Errors Sent	0	0	0
Errors Received	0	0	0
Unicast Packets Sent	0	0	0
Unicast Packets Received	0	0	0
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 8-13 WLAN Statistics page


GPON Home Gateway
Logout
Status>Statistics
Status
Overview
Device Information
LAN Status
WAN Status
WAN Status IPv6
STA Information
Neighboring AP
Home Networking
Optics Module Status
Statistics
Voice Information
Network
Security
Application
Maintenance
RG Troubleshooting
LAN
WAN
WLAN
Refresh

COUNTERS	2.4GHZ ALHN-E094	5GHZ ALHN-E094-5
Bytes Sent	0	0
Bytes Received	0	0
Packets Sent	0	0
Packets Received	0	0

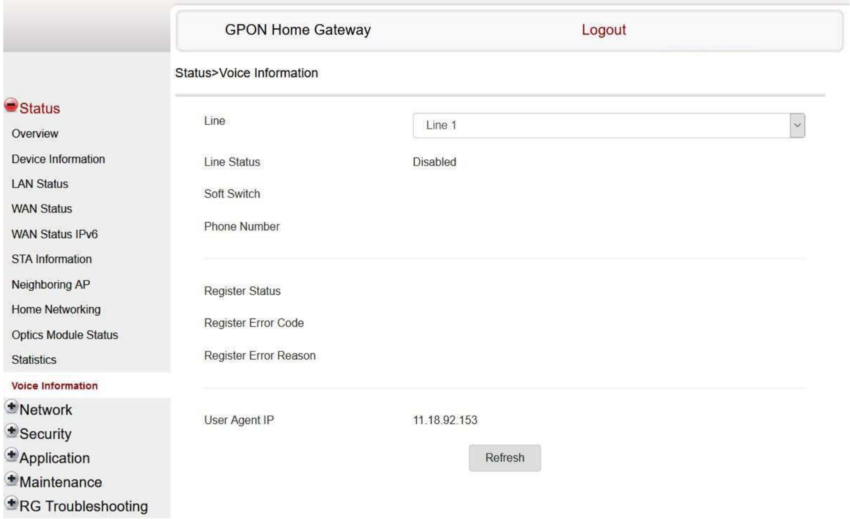
You can click **Refresh** to display up-to-date information.

END OF STEPS

8.16 Viewing voice information

1

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



GPON Home Gateway
Logout
Status>Voice Information
Status
Overview
Device Information
LAN Status
WAN Status
WAN Status IPv6
STA Information
Neighboring AP
Home Networking
Optics Module Status
Statistics
Voice Information
Network
Security
Application
Maintenance
RG Troubleshooting
Refresh

Line	Line 1
Line Status	Disabled
Soft Switch	
Phone Number	
Register Status	
Register Error Code	
Register Error Reason	
User Agent IP	11.18.92.153

Figure 8-14 Voice Information page

Table 8-10 Voice Information parameters

Field	Description
Line	Select a line from the list. The default is Line 1.
Line Status	Depending on the line chosen, the line options are: • Up • Initializing • Registering • Unregistering • Error • Testing • Quiescent • Disabled The default is Disabled
Soft Switch	Proxy IP address; blank if the line is not registered
Phone number	Phone number configured for a telephone line 1; 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

Table 8-10 Voice Information parameters (continued)

Field	Description
User Agent IP	IP address of the user agent ExternalIPAddress in WANIPConnection or WANPPPConnection

2

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

END OF STEPS

Network configuration

8.17 Overview

8.17.1 Purpose

This chapter describes the network configuration tasks supported by G-1425G-A ONTs.

8.17.2 Contents

8.17 Overview	113
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8.20 Configuring WAN	117
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8.23 Configuring Wireless 5GHz	122
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8.30 Configuring QoS	136
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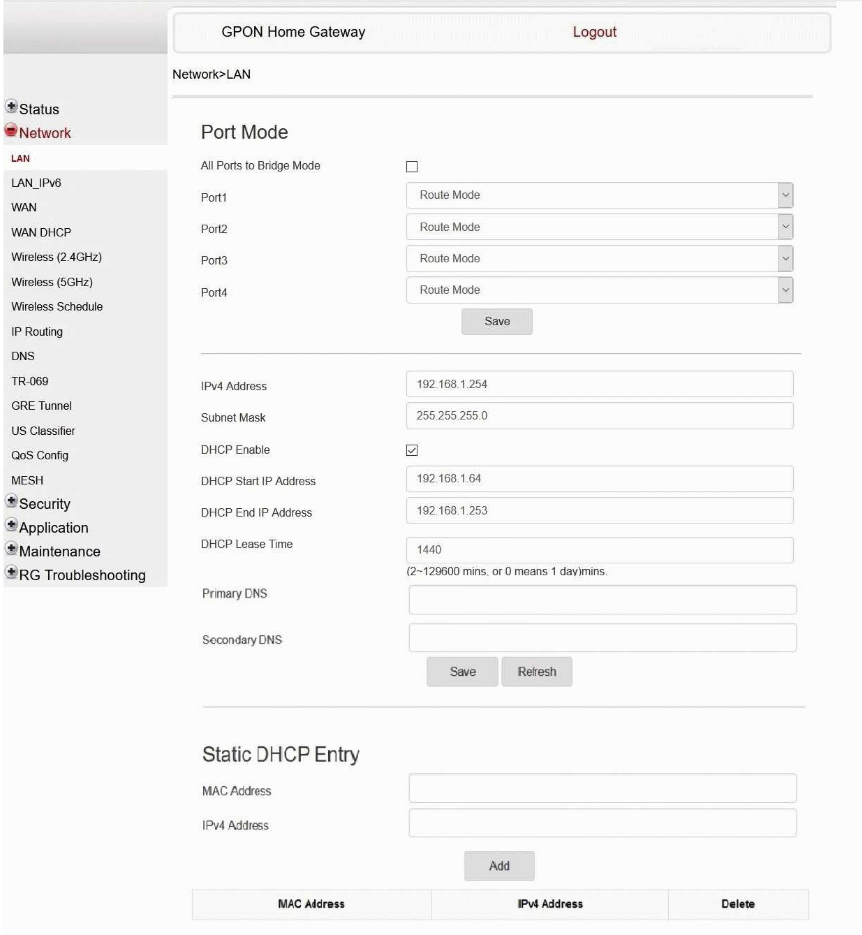
8.18 Configuring LAN

1

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

Figure 8-15 LAN page


GPON Home Gateway
Logout
Network>LAN
Status
Network
LAN
LAN_IPv6
WAN
WAN DHCP
Wireless (2.4GHz)
Wireless (5GHz)
Wireless Schedule
IP Routing
DNS
TR-069
GRE Tunnel
US Classifier
QoS Config
MESH
Security
Application
Maintenance
RG Troubleshooting
Save
Save
Refresh
Add
MAC Address
IPv4 Address
Delete

Port Mode

All Ports to Bridge Mode ☐
Port1: Route Mode
Port2: Route Mode
Port3: Route Mode
Port4: Route Mode

IPv4 Address: 192.168.1.254
Subnet Mask: 255.255.255.0
DHCP Enable ☑
DHCP Start IP Address: 192.168.1.64
DHCP End IP Address: 192.168.1.253
DHCP Lease Time: 1440 (2~129600 mins. or 0 means 1 day)mins.
Primary DNS:
Secondary DNS:

Static DHCP Entry

MAC Address:
IPv4 Address:

2

Configure the following LAN parameters:

Table 8-11 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.

Table 8-11 LAN parameters (continued)

Field	Description
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**.

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

4

Configure the Static DHCP parameters:

Table 8-12 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 **Add**.

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

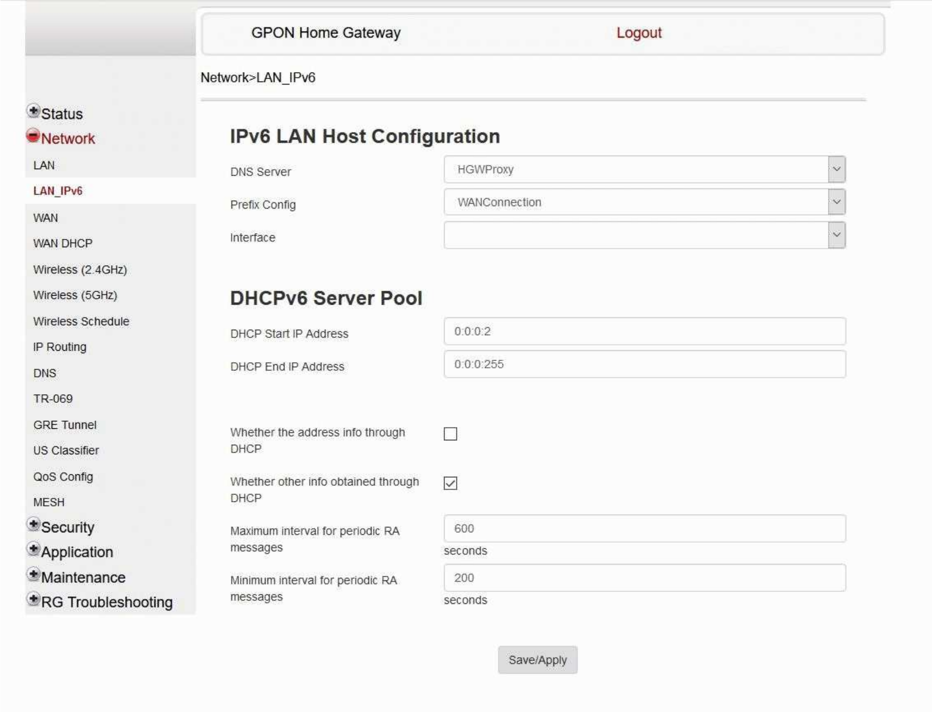
END OF STEPS

8.19 Configuring LAN IPv6

1

Click **Network→LAN_IPv6** from the left pane in the GPON Home Gateway page. The LAN_ IPv6 page displays.

Figure 8-16 LAN IPv6 page


GPON Home Gateway
Logout
Network>LAN_IPv6
Status
Network
LAN
LAN_IPv6
WAN
WAN DHCP
Wireless (2.4GHz)
Wireless (5GHz)
Wireless Schedule
IP Routing
DNS
TR-069
GRE Tunnel
US Classifier
QoS Config
MESH
Security
Application
Maintenance
RG Troubleshooting
Save/Apply

IPv6 LAN Host Configuration

DNS Server: HGWProxy
Prefix Config: WANConnection
Interface:

DHCPv6 Server Pool

DHCP Start IP Address: 0:0:0:2
DHCP End IP Address: 0:0:0:255
Whether the address info through DHCP: ☐
Whether other info obtained through DHCP: ☑
Maximum interval for periodic RA messages: 600 seconds
Minimum interval for periodic RA messages: 200 seconds

2

Configure the following parameters:

Table 8-13 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.

Table 8-13 LAN IPv6 parameters (continued)

Field	Description
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**.

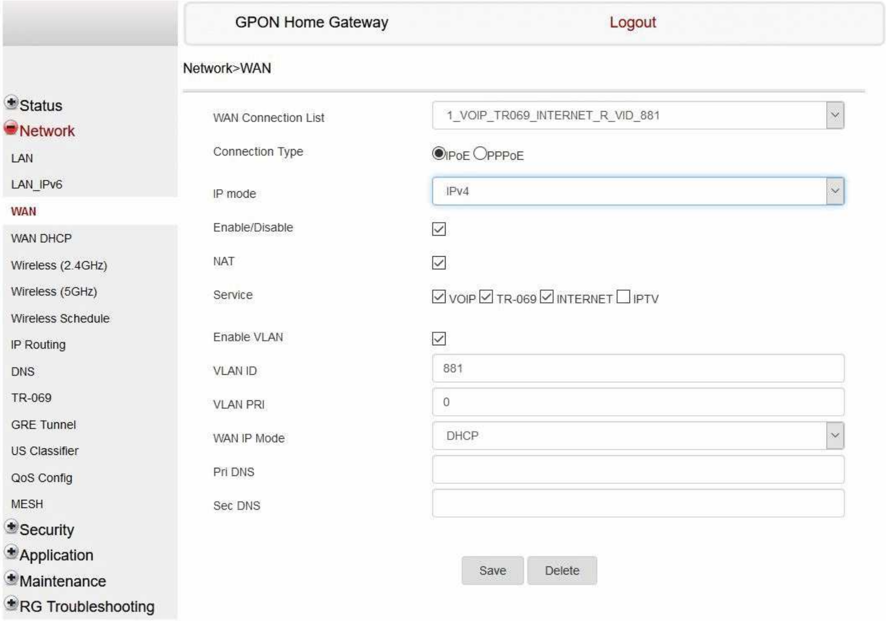
END OF STEPS

8.20 Configuring WAN

1

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

Figure 8-17 WAN page


GPON Home Gateway
Logout
Status
Network
LAN
LAN_IPv6
WAN
WAN DHCP
Wireless (2.4GHz)
Wireless (5GHz)
Wireless Schedule
IP Routing
DNS
TR-069
GRE Tunnel
US Classifier
QoS Config
MESH
Security
Application
Maintenance
RG Troubleshooting
Save
Delete

Network>WAN

WAN Connection List: 1_VOIP_TR069_INTERNET_R_VID_881
Connection Type: ● IPoE ○ PPPoE
IP mode: IPv4
Enable/Disable: ☑
NAT: ☑
Service: ☑ VOIP ☑ TR-069 ☑ INTERNET ☐ IPTV
Enable VLAN: ☑
VLAN ID: 881
VLAN PRI: 0
WAN IP Mode: DHCP
Pri DNS:
Sec DNS:

2

Configure the following parameters:

Table 8-14 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.
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**.

Click **Delete** to delete the entries.

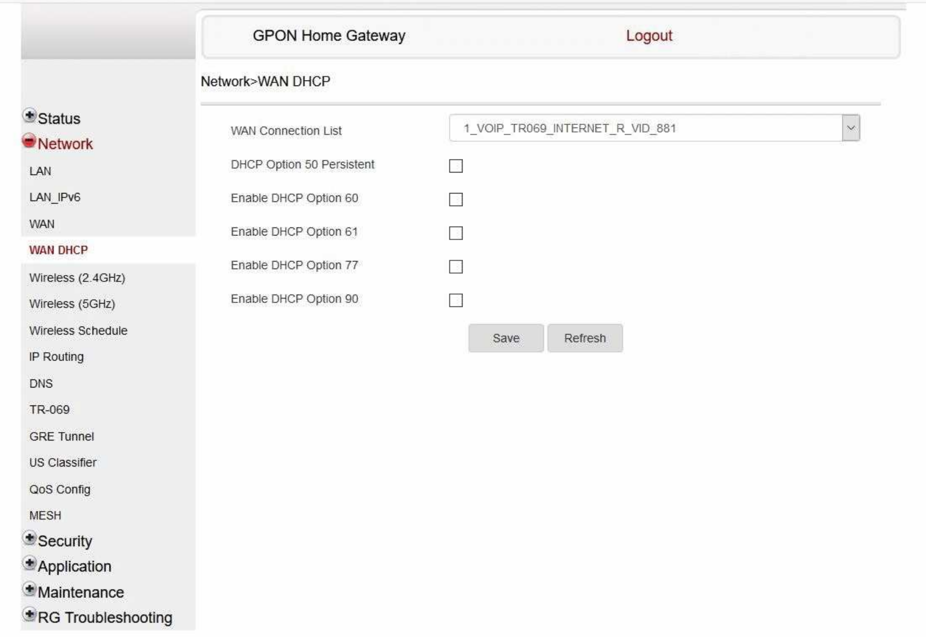
END OF STEPS

8.21 Configuring WAN DHCP

1

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

Figure 8-18 WAN DHCP page


GPON Home Gateway
Logout
Network>WAN DHCP
Status
Network
LAN
LAN_IPv6
WAN
WAN DHCP
Wireless (2.4GHz)
Wireless (5GHz)
Wireless Schedule
IP Routing
DNS
TR-069
GRE Tunnel
US Classifier
QoS Config
MESH
Security
Application
Maintenance
RG Troubleshooting
Save
Refresh

WAN Connection List: 1_VOIP_TR069_INTERNET_R_VID_881
DHCP Option 50 Persistent ☐
Enable DHCP Option 60 ☐
Enable DHCP Option 61 ☐
Enable DHCP Option 77 ☐
Enable DHCP Option 90 ☐

2

Configure the following parameters:

Table 8-15 WAN DHCP parameters

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

3

Click **Save**.

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

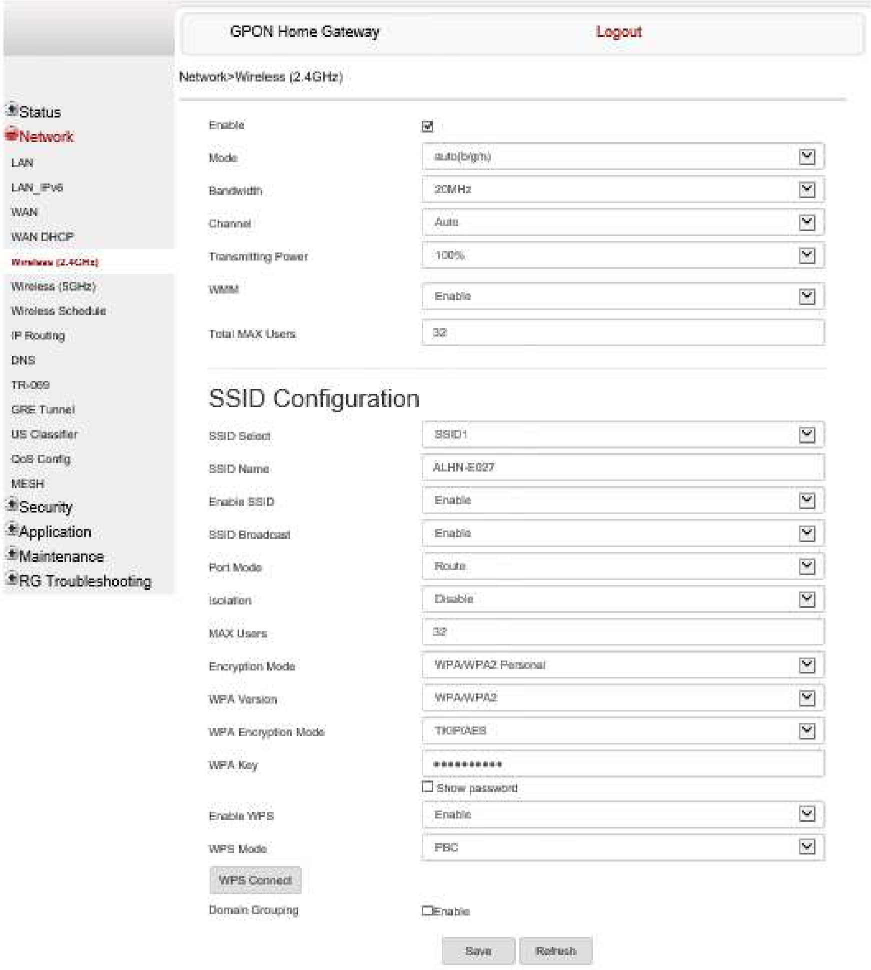
END OF STEPS

8.22 Configuring Wireless 2.4GHz

1

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

Figure 8-19 Wireless (2.4GHz) page


GPON Home Gateway
Logout
Network>Wireless (2.4GHz)
Status
Network
LAN
LAN_IPv6
WAN
WAN DHCP
Wireless (2.4GHz)
Wireless (5GHz)
Wireless Schedule
IP Routing
DNS
TR-069
GRE Tunnel
US Classifier
QoS Config
MESH
Security
Application
Maintenance
RG Troubleshooting
WPS Connect
Save
Refresh

Enable	☑
Mode	auto(b/g/n)
Bandwidth	20MHz
Channel	Auto
Transmitting Power	100%
WMM	Enable
Total MAX Users	32

SSID Configuration

SSID Select	SSID1
SSID Name	ALHN-E027
Enable SSID	Enable
SSID Broadcast	Enable
Port Mode	Route
Isolation	Disable
MAX Users	32
Encryption Mode	WPA/WPA2 Personal
WPA Version	WPA/WPA2
WPA Encryption Mode	TKIP/AES
WPA Key	********** ☐ Show password
Enable WPS	Enable
WPS Mode	PBC
Domain Grouping	☐Enable

2

Configure the following parameters:

Table 8-16 Wireless (2.4GHz) parameters

Field	Description
Enable	Select this checkbox to enable Wi-Fi.
Mode	Select a Wi-Fi mode from the list: • **auto (b/g/n)** • **b** • **g** • **n** • **b/g** • **g/n**
Bandwidth	Select from: • **20 MHz** • **40 MHz** • **20/40 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 number of total MAX users. The maximum number of users is 64.
SSID Configuration	
SSID Select [1]	Select the SSID from the list.
SSID Name	Enter the SSID name.
Enable SSID	Enable or disable SSID from this list.
SSID Broadcast	Enable or disable SSID broadcast from this list.
Port Mode	Select a port mode from the list. Route is the default.
Isolation	Enable or disable isolation from this list.
MAX Users	Enter the number of MAX users.
Encryption Mode	Select an encryption mode from the list: • **WPA/WPA2 Personal** • **WPA/WPA2 Enterprise** • **WEP** • **OPEN**

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

Field	Description
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) or AP PIN
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 8-17, “Wireless (5GHz) parameters” (p. 123).

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**.

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

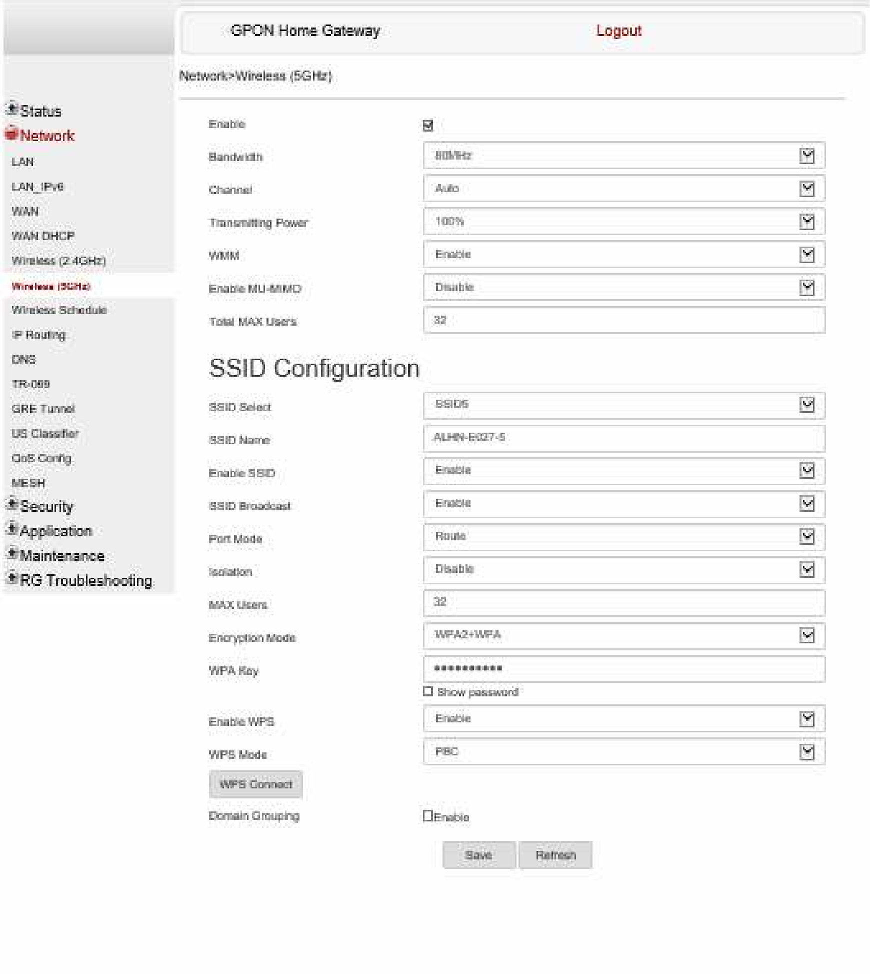
END OF STEPS

8.23 Configuring Wireless 5GHz

1

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

Figure 8-20 Wireless (5GHz) page


GPON Home Gateway
Logout
Status
Network
LAN
LAN_IPv6
WAN
WAN DHCP
Wireless (2.4GHz)
Wireless (5GHz)
Wireless Schedule
IP Routing
DNS
TR-069
GRE Tunnel
US Classifier
QoS Config
MESH
Security
Application
Maintenance
RG Troubleshooting
WPS Connect
Save
Refresh

Network>Wireless (5GHz)

Enable	☑
Bandwidth	80MHz
Channel	Auto
Transmitting Power	100%
WMM	Enable
Enable MU-MIMO	Disable
Total MAX Users	32

SSID Configuration

SSID Select	SSID5
SSID Name	ALHN-E027-5
Enable SSID	Enable
SSID Broadcast	Enable
Port Mode	Route
Isolation	Disable
MAX Users	32
Encryption Mode	WPA2+WPA
WPA Key	********** ☐ Show password
Enable WPS	Enable
WPS Mode	PBC
Domain Grouping	☐Enable

2

Configure the following parameters:

Table 8-17 Wireless (5GHz) parameters

Field	Description
Enable	Select this checkbox to enable WiFi.
Bandwidth	Select from: • **20 MHz** • **40 MHz** • **80 MHz**

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

Field	Description
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.
Enable MU-MIMO	Select **Enable** or **Disable** from the list to enable or disable MU-MIMO.
Total MAX Users	Enter the total number of MAX users. The maximum number of users is 64.
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) or AP PIN
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.
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.

3

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

4

Click **Save**.

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

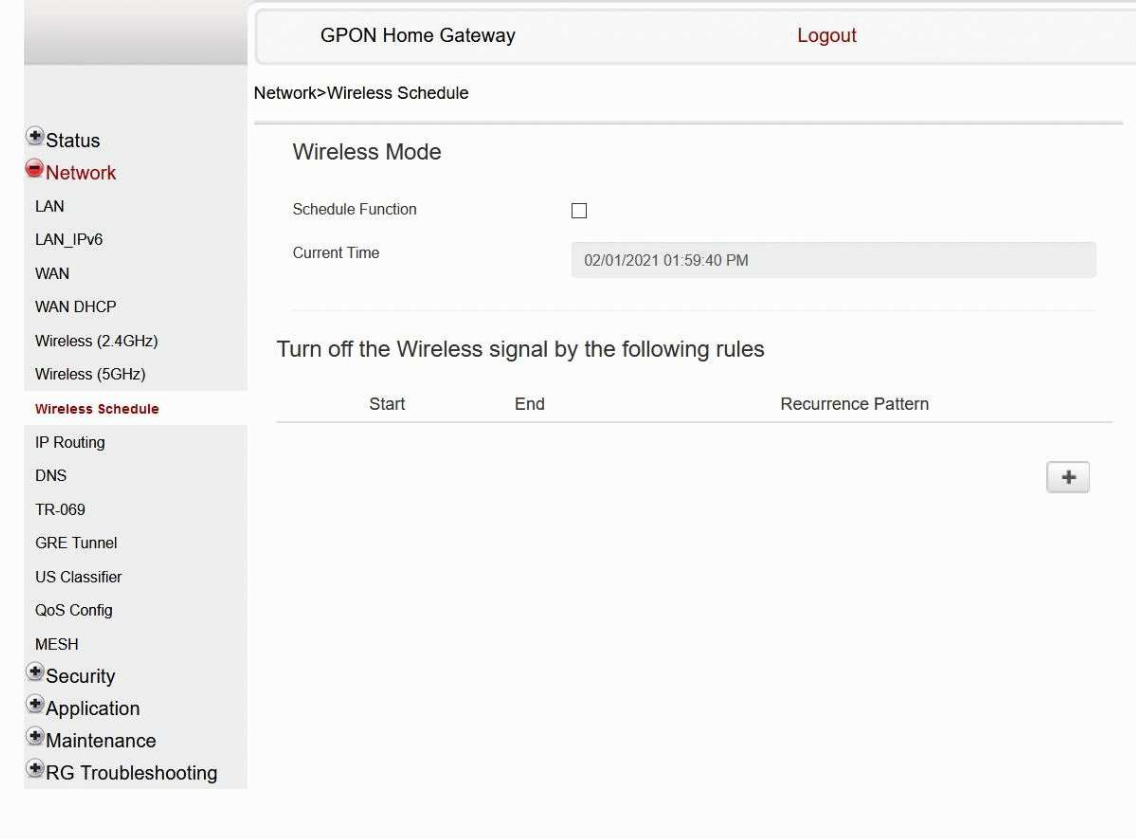
END OF STEPS

8.24 Configuring wireless scheduling

1

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

Figure 8-21 Wireless Schedule page


GPON Home Gateway
Logout
Network>Wireless Schedule
Status
Network
LAN
LAN_IPv6
WAN
WAN DHCP
Wireless (2.4GHz)
Wireless (5GHz)
Wireless Schedule
IP Routing
DNS
TR-069
GRE Tunnel
US Classifier
QoS Config
MESH
Security
Application
Maintenance
RG Troubleshooting
+

Wireless Mode

Schedule Function ☐

Current Time 02/01/2021 01:59:40 PM

Turn off the Wireless signal by the following rules

Start	End	Recurrence Pattern

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**.

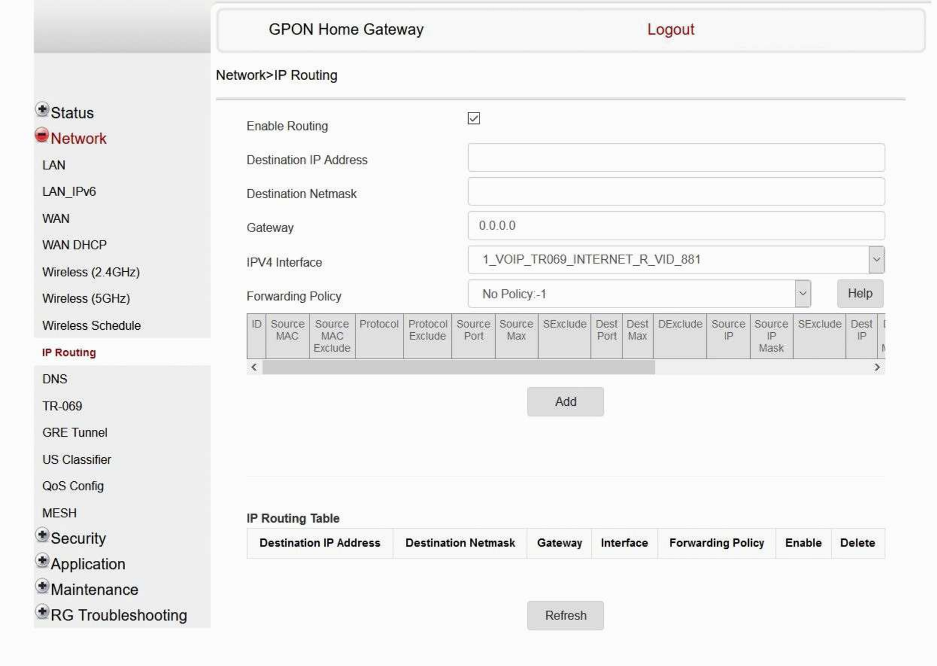
END OF STEPS

8.25 Configuring IP routing

1

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

Figure 8-22 IP Routing page


GPON Home Gateway
Logout
Network>IP Routing
Status
Network
LAN
LAN_IPv6
WAN
WAN DHCP
Wireless (2.4GHz)
Wireless (5GHz)
Wireless Schedule
IP Routing
DNS
TR-069
GRE Tunnel
US Classifier
QoS Config
MESH
Security
Application
Maintenance
RG Troubleshooting
Help
Add
Refresh

Enable Routing ☑
Destination IP Address
Destination Netmask
Gateway 0.0.0.0
IPV4 Interface 1_VOIP_TR069_INTERNET_R_VID_881
Forwarding Policy No Policy:-1

ID	Source MAC	Source MAC Exclude	Protocol	Protocol Exclude	Source Port	Source Max	SExclude	Dest Port	Dest Max	DExclude	Source IP	Source IP Mask	SExclude	Dest IP

IP Routing Table

Destination IP Address	Destination Netmask	Gateway	Interface	Forwarding Policy	Enable	Delete

2

Configure the following parameters:

Table 8-18 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.
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**.

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

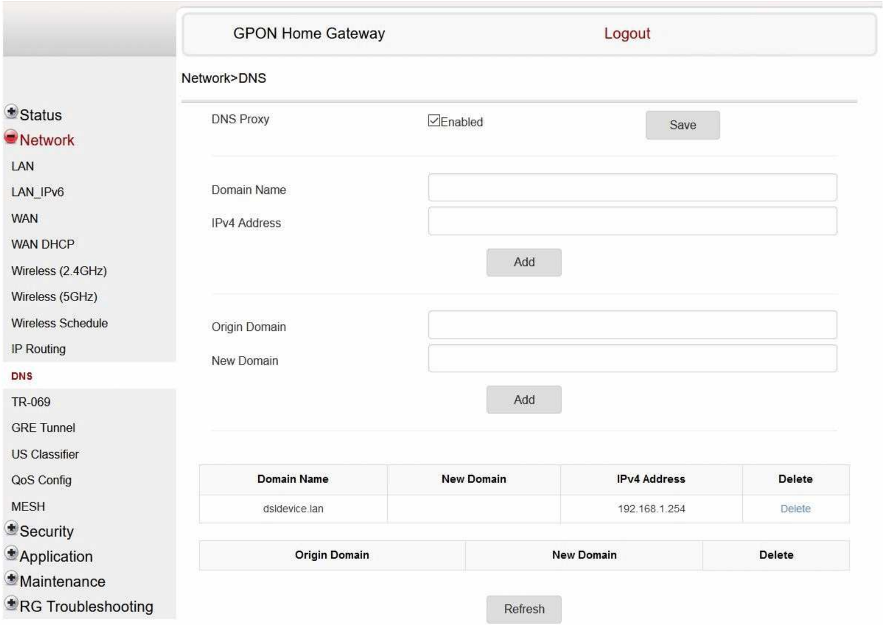
END OF STEPS

8.26 Configuring DNS

1

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

Figure 8-23 DNS page


GPON Home Gateway
Logout
Status
Network
LAN
LAN_IPv6
WAN
WAN DHCP
Wireless (2.4GHz)
Wireless (5GHz)
Wireless Schedule
IP Routing
DNS
TR-069
GRE Tunnel
US Classifier
QoS Config
MESH
Security
Application
Maintenance
RG Troubleshooting
Save
Domain Name
IPv4 Address
Add
Origin Domain
New Domain
Add
Refresh

Network>DNS

DNS Proxy ☑Enabled

Domain Name	New Domain	IPv4 Address	Delete
dsldevice.lan		192.168.1.254	Delete

Origin Domain	New Domain	Delete

2

Configure the following parameters:

Table 8-19 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.
New Domain	Associate an origin domain with a new domain and click **Add**.

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

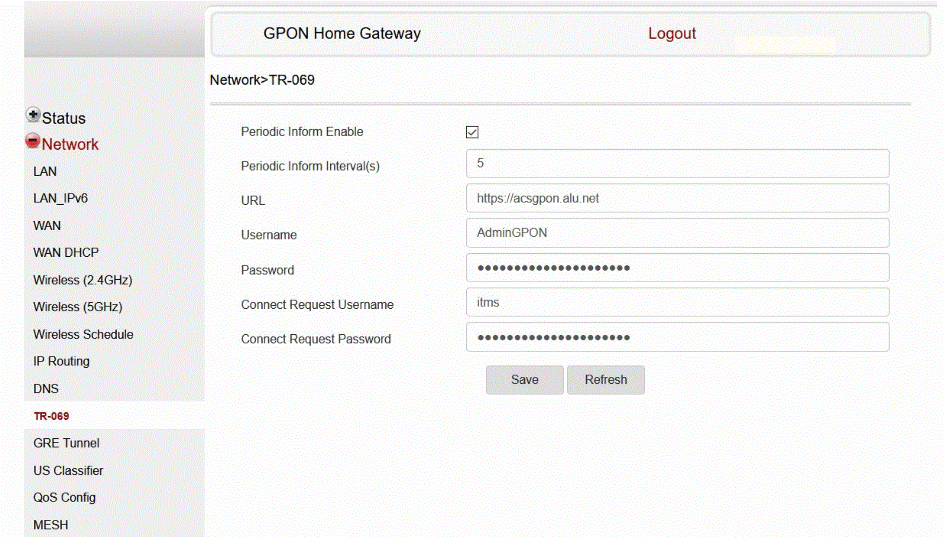
END OF STEPS

8.27 Configuring TR-069

1

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

Figure 8-24 TR-069 page



GPON Home Gateway
Logout
Network>TR-069
Status
Network
LAN
LAN_IPv6
WAN
WAN DHCP
Wireless (2.4GHz)
Wireless (5GHz)
Wireless Schedule
IP Routing
DNS
TR-069
GRE Tunnel
US Classifier
QoS Config
MESH
Save
Refresh

Periodic Inform Enable ☑
Periodic Inform Interval(s) 5
URL https://acsgpon.alu.net
Username AdminGPON
Password ••••••••••••••••••••
Connect Request Username itms
Connect Request Password ••••••••••••••••••••

2

Configure the following parameters:

Table 8-20 TR-069 parameters

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

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

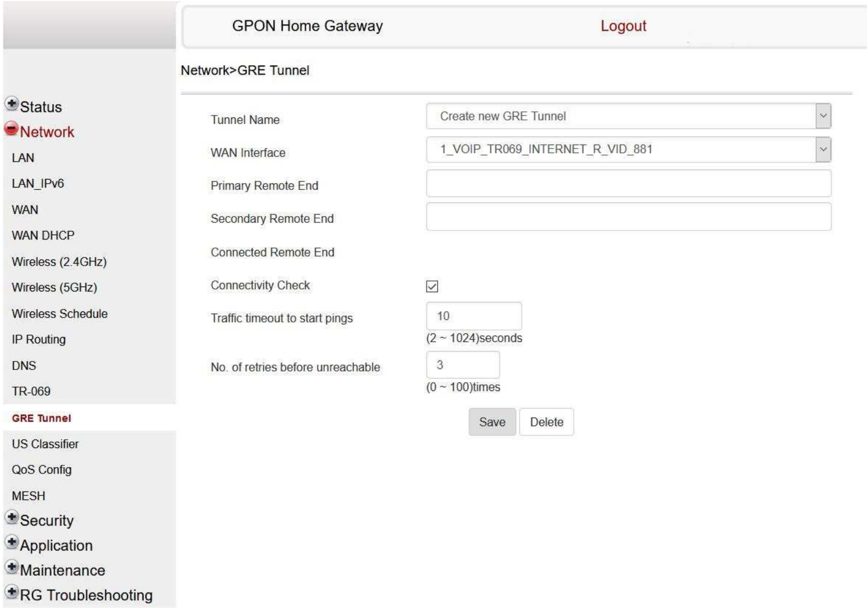
END OF STEPS

8.28 Configuring GRE tunnel

1

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

Figure 8-25 GRE Tunnel page


GPON Home Gateway
Logout
Network>GRE Tunnel
Status
Network
LAN
LAN_IPv6
WAN
WAN DHCP
Wireless (2.4GHz)
Wireless (5GHz)
Wireless Schedule
IP Routing
DNS
TR-069
GRE Tunnel
US Classifier
QoS Config
MESH
Security
Application
Maintenance
RG Troubleshooting
Save
Delete

Tunnel Name	Create new GRE Tunnel
WAN Interface	1_VOIP_TR069_INTERNET_R_VID_881
Primary Remote End	
Secondary Remote End	
Connected Remote End	
Connectivity Check	☑
Traffic timeout to start pings	10 (2 ~ 1024)seconds
No. of retries before unreachable	3 (0 ~ 100)times

2

Configure the following parameters:

Table 8-21 GRE Tunnel 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.
Primary Remote End Secondary Remote End (optional)	Enter an IP address or FQDN that is unique in the system. 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).

Table 8-21 GRE Tunnel parameters (continued)

Field	Description
No. of retries before unreachable	Enter the number of retries before the tunnel is declared down (0 to 100).

3

Click **Save**.

Click **Delete** to delete the entries.

END OF STEPS

8.29 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.

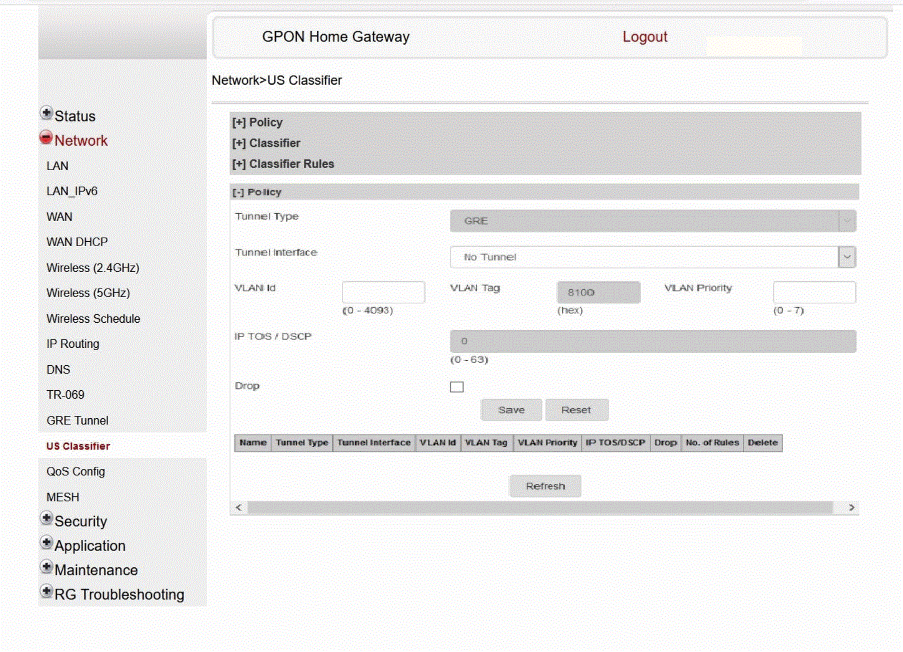
Up to 16 policies can be created, with up to 8 classifiers and 32 classifier rules.

1

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

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

Figure 8-26 US Classifier Policy page


GPON Home Gateway
Logout
Network>US Classifier
Status
Network
LAN
LAN_IPv6
WAN
WAN DHCP
Wireless (2.4GHz)
Wireless (5GHz)
Wireless Schedule
IP Routing
DNS
TR-069
GRE Tunnel
US Classifier
QoS Config
MESH
Security
Application
Maintenance
RG Troubleshooting
[+] Policy
[+] Classifier
[+] Classifier Rules
[-] Policy
Save
Reset
Name | Tunnel Type | Tunnel Interface | VLAN Id | VLAN Tag | VLAN Priority | IP TOS/DSCP | Drop | No. of Rules | Delete
Refresh

Tunnel Type: GRE
Tunnel Interface: No Tunnel
VLAN Id: (0 - 4093)
VLAN Tag: 8100 (hex)
VLAN Priority: (0 - 7)
IP TOS / DSCP: 0 (0 - 63)
Drop: ☐

2

Configure the following parameters:

Table 8-22 US Classifier Policy parameters

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

3

Click **Save**.

4

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

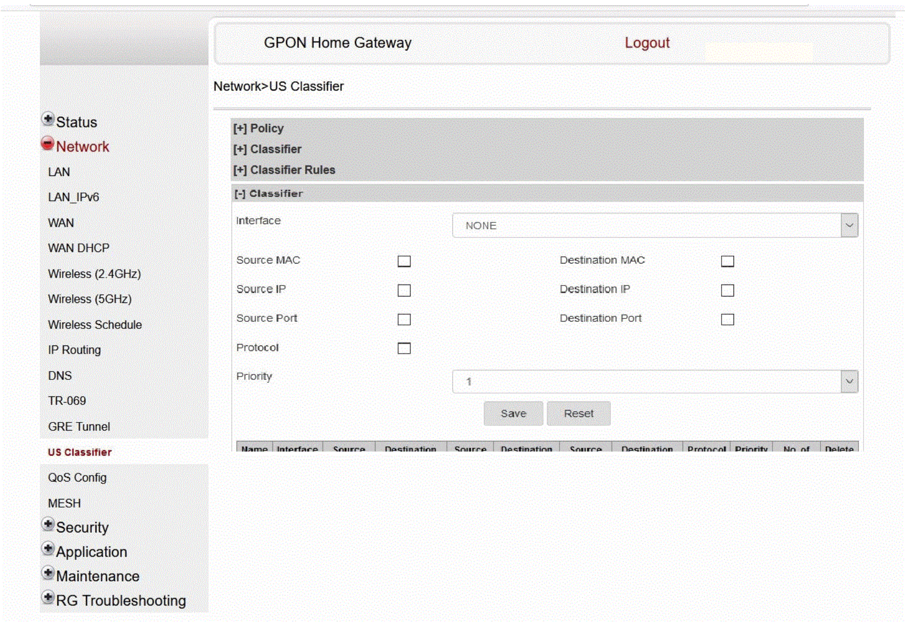
A policy can only be deleted if it is not associated with any classifier rules.

5

Click **Network→US Classifier** from the left pane in the GPON Home Gateway page and select the **Classifier** tab.

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

Figure 8-27 US Classifier page


GPON Home Gateway
Logout
Network>US Classifier
Status
Network
LAN
LAN_IPv6
WAN
WAN DHCP
Wireless (2.4GHz)
Wireless (5GHz)
Wireless Schedule
IP Routing
DNS
TR-069
GRE Tunnel
US Classifier
QoS Config
MESH
Security
Application
Maintenance
RG Troubleshooting
[+] Policy
[+] Classifier
[+] Classifier Rules
[-] Classifier
Save
Reset
Name
Interface
Source
Destination
Source
Destination
Source
Destination
Protocol
Priority
No. of
Delete

Interface: NONE

Source MAC ☐ Destination MAC ☐
Source IP ☐ Destination IP ☐
Source Port ☐ Destination Port ☐
Protocol ☐

Priority: 1

6

Configure the following parameters:

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

Table 8-23 US Classifier parameters

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

Table 8-23 US Classifier parameters (continued)

Field	Description
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.

7

Click **Save**.

8

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

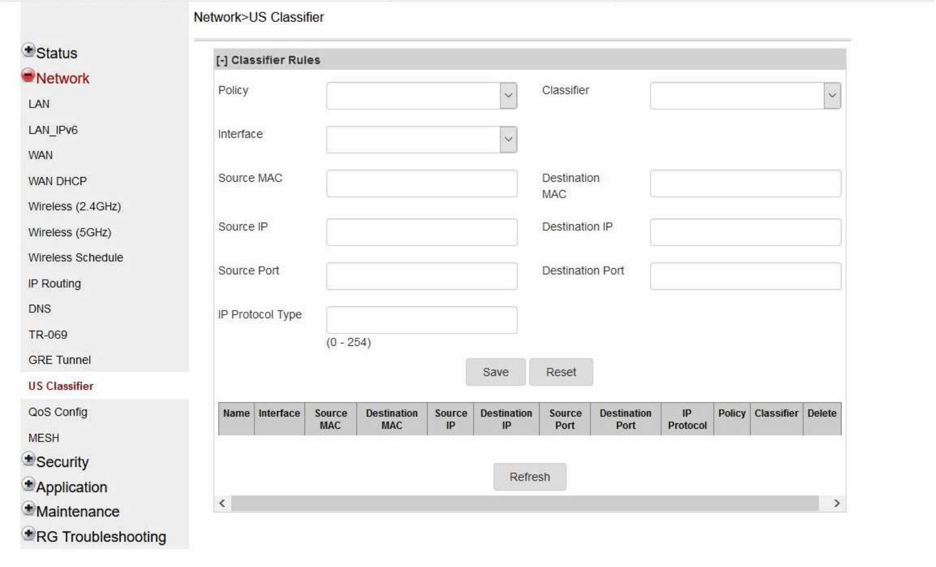
A classifier can only be deleted if it is not associated with any classifier rules.

9

Expand **Classifier Rules**.

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

Figure 8-28 US Classifier Rules page


Network>US Classifier
Status
Network
LAN
LAN_IPv6
WAN
WAN DHCP
Wireless (2.4GHz)
Wireless (5GHz)
Wireless Schedule
IP Routing
DNS
TR-069
GRE Tunnel
US Classifier
QoS Config
MESH
Security
Application
Maintenance
RG Troubleshooting
[-] Classifier Rules
Policy
Classifier
Interface
Source MAC
Destination MAC
Source IP
Destination IP
Source Port
Destination Port
IP Protocol Type
(0 - 254)
Save
Reset
Name
Interface
Source MAC
Destination MAC
Source IP
Destination IP
Source Port
Destination Port
IP Protocol
Policy
Classifier
Delete
Refresh

10

Configure the classifier rule.

Table 8-24 US Classifier Rules parameters

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

11

Click **Save**.

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

12

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

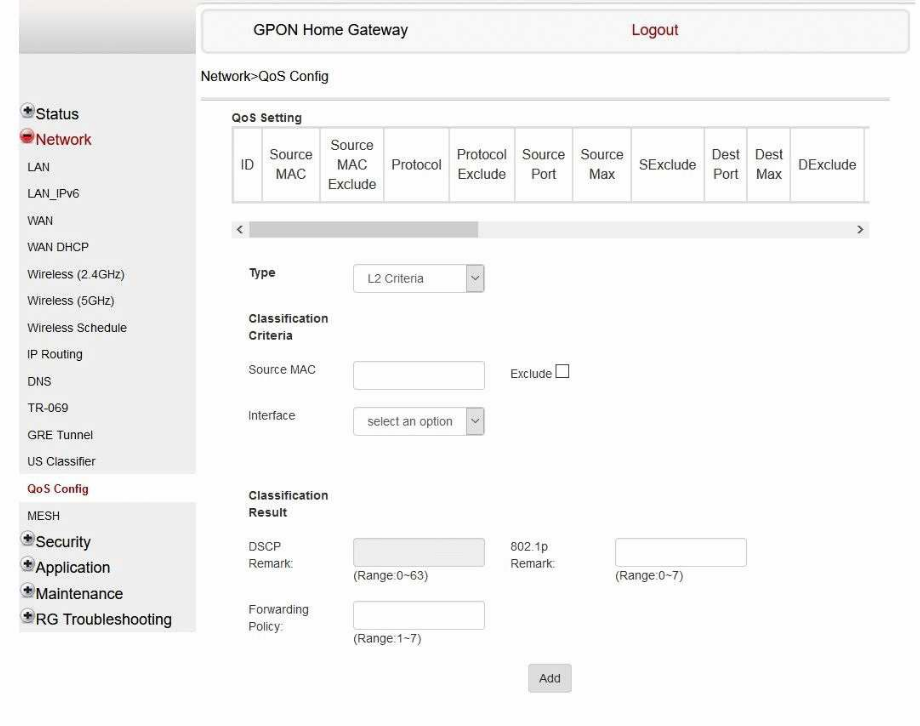
END OF STEPS

8.30 Configuring QoS

1

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

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


GPON Home Gateway
Logout
Network>QoS Config
Status
Network
LAN
LAN_IPv6
WAN
WAN DHCP
Wireless (2.4GHz)
Wireless (5GHz)
Wireless Schedule
IP Routing
DNS
TR-069
GRE Tunnel
US Classifier
QoS Config
MESH
Security
Application
Maintenance
RG Troubleshooting
Add

QoS Setting

ID	Source MAC	Source MAC Exclude	Protocol	Protocol Exclude	Source Port	Source Max	SExclude	Dest Port	Dest Max	DExclude

Type L2 Criteria

Classification Criteria

Source MAC Exclude ☐

Interface select an option

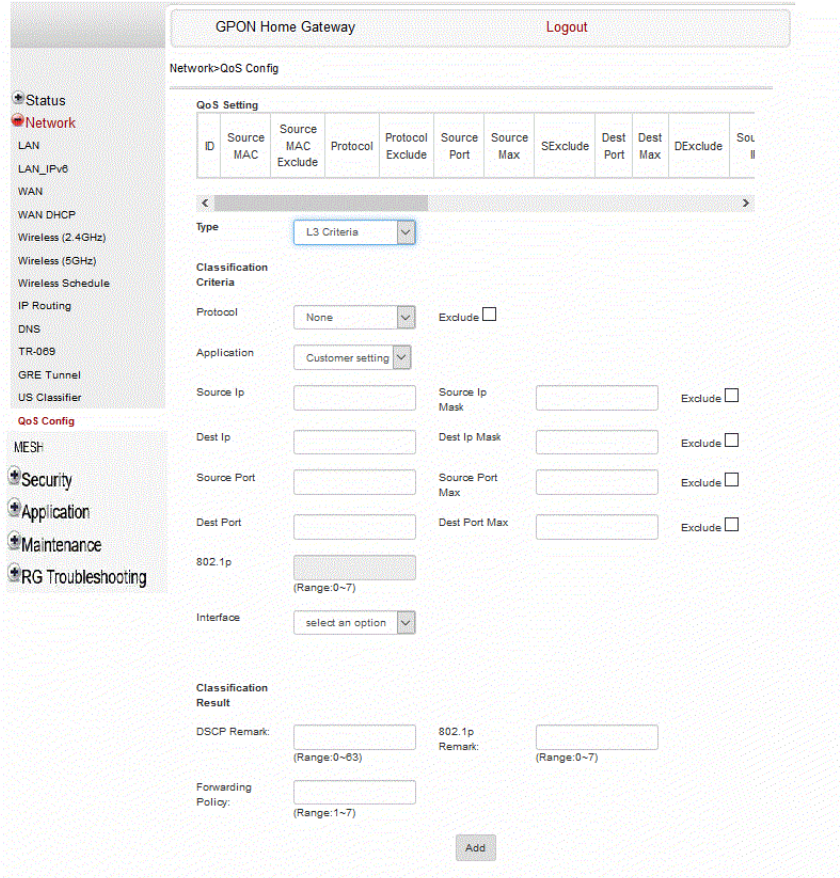
Classification Result

DSCP Remark: (Range:0~63)

802.1p Remark: (Range:0~7)

Forwarding Policy: (Range:1~7)

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



GPON Home Gateway
Logout
Network>QoS Config
Status
Network
LAN
LAN_IPv6
WAN
WAN DHCP
Wireless (2.4GHz)
Wireless (5GHz)
Wireless Schedule
IP Routing
DNS
TR-069
GRE Tunnel
US Classifier
QoS Config
MESH
Security
Application
Maintenance
RG Troubleshooting
QoS Setting
ID
Source MAC
Source MAC Exclude
Protocol
Protocol Exclude
Source Port
Source Max
SExclude
Dest Port
Dest Max
DExclude
Sou
Type
L3 Criteria
Classification Criteria
Protocol
None
Exclude ☐
Application
Customer setting
Source Ip
Source Ip Mask
Exclude ☐
Dest Ip
Dest Ip Mask
Exclude ☐
Source Port
Source Port Max
Exclude ☐
Dest Port
Dest Port Max
Exclude ☐
802.1p
(Range:0~7)
Interface
select an option
Classification Result
DSCP Remark:
(Range:0~63)
802.1p Remark:
(Range:0~7)
Forwarding Policy:
(Range:1~7)
Add

2

Configure the following parameters:

Table 8-25 QoS Config parameters

Field	Description
QoS Setting	
Type	Select a QoS service layer type from the list: L2 or L3.
Classification Criteria	
Source MAC	Enter the source MAC address. Select the **Exclude** checkbox to exclude the source MAC address.
Interface	Select an interface from the list.
Classification Result	

Table 8-25 QoS Config parameters (continued)

Field	Description
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.

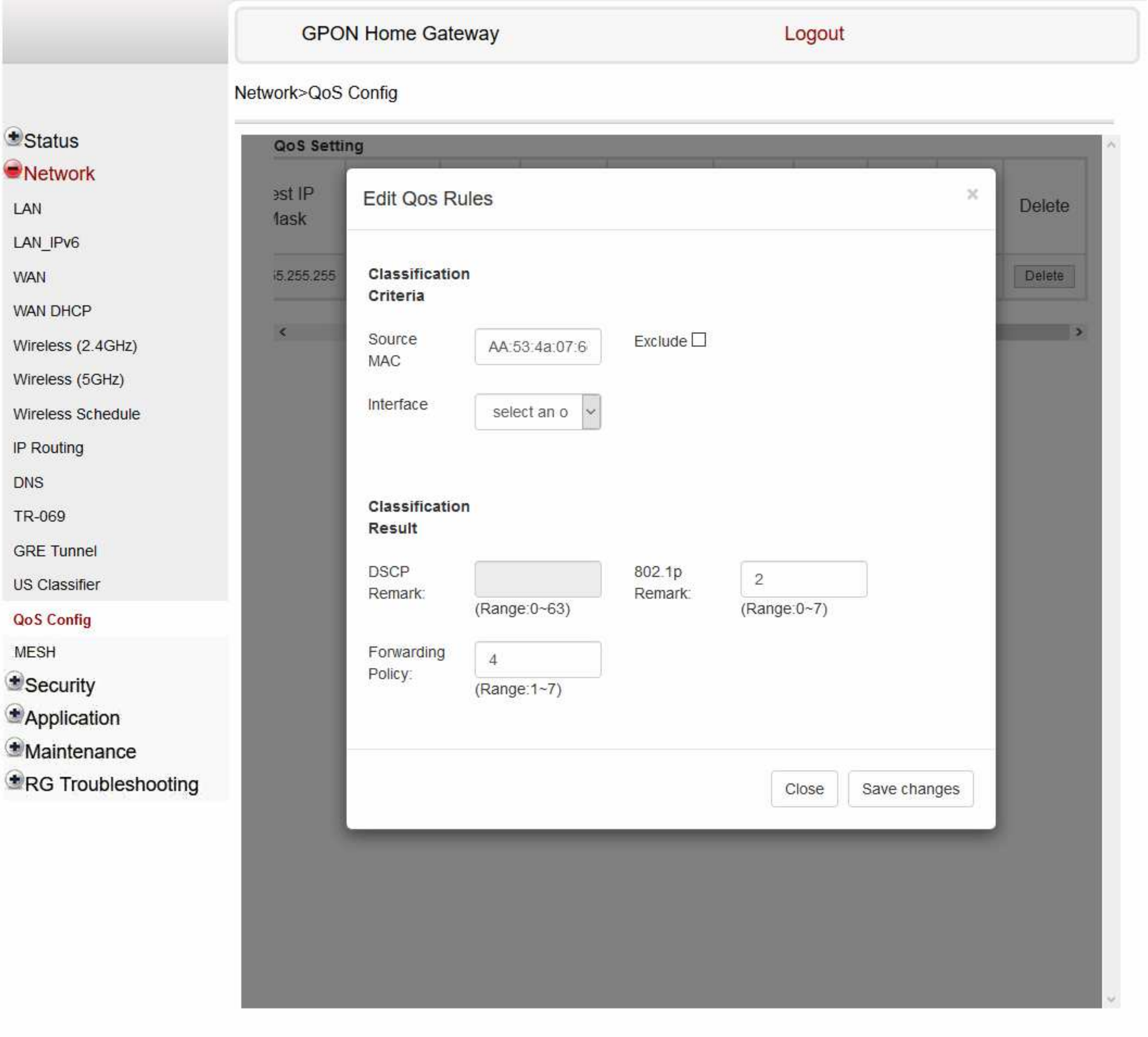
3

Click **Add** to add a QoS policy.

You can click Edit to edit the QoS rules or Delete to delete the QoS configuration.

Figure 8-31, “QoS rules edit window” (p. 140) shows the window for editing the QoS rules.

Figure 8-31 QoS rules edit window


GPON Home Gateway
Logout
Network>QoS Config
Status
Network
LAN
LAN_IPv6
WAN
WAN DHCP
Wireless (2.4GHz)
Wireless (5GHz)
Wireless Schedule
IP Routing
DNS
TR-069
GRE Tunnel
US Classifier
QoS Config
MESH
Security
Application
Maintenance
RG Troubleshooting
QoS Setting
est IP
lask
5.255.255
Delete
Delete
Edit Qos Rules
×
Close
Save changes

Classification Criteria

Source MAC: AA:53:4a:07:6 Exclude ☐

Interface: select an o

Classification Result

DSCP Remark: (Range:0~63)

802.1p Remark: 2 (Range:0~7)

Forwarding Policy: 4 (Range:1~7)

You can click **Save Changes** to save the QoS rules.

You can click **Close** to close the Edit QoS Rules window.

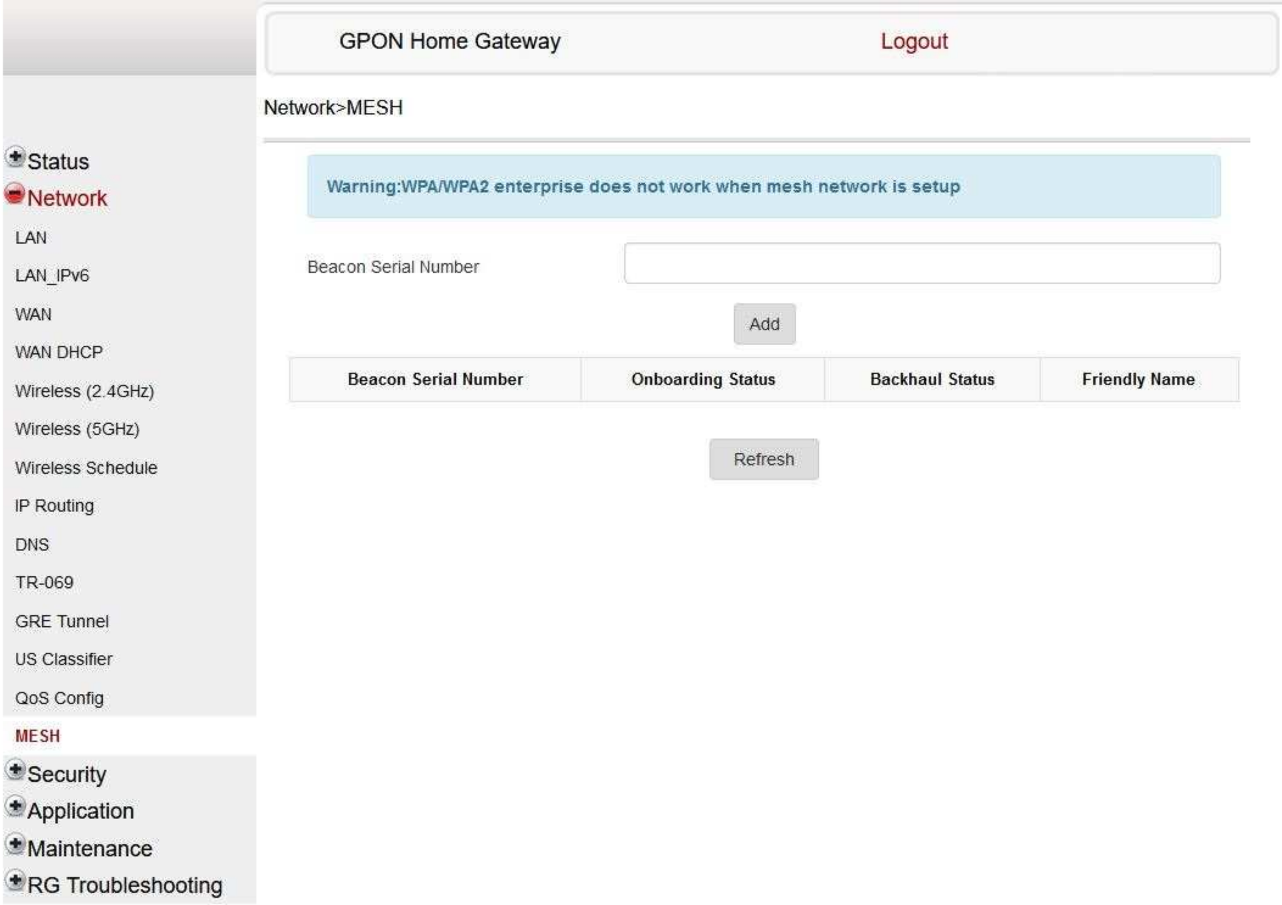
END OF STEPS

8.31 Configuring Mesh

1

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

Figure 8-32 Mesh page


GPON Home Gateway
Logout
Network>MESH
Status
Network
LAN
LAN_IPv6
WAN
WAN DHCP
Wireless (2.4GHz)
Wireless (5GHz)
Wireless Schedule
IP Routing
DNS
TR-069
GRE Tunnel
US Classifier
QoS Config
MESH
Security
Application
Maintenance
RG Troubleshooting
Beacon Serial Number
Add
Refresh

Warning:WPA/WPA2 enterprise does not work when mesh network is setup

Beacon Serial Number	Onboarding Status	Backhaul Status	Friendly Name

2

Enter the beacon serial number and click **Add**.

The following information displays:

Table 8-26 Mesh parameters

Field	Description
Beacon Serial Number	Indicates the serial number of the extender Nokia WiFi beacon device.
Onboarding Status	Indicates whether the extender Nokia WiFi beacon associated with the serial number is configured to the mesh or not. If it is configured then the extender beacon MAC address is added to the Root.
Backhaul Status	Indicates the status of the backhaul connection. It represents the backhaul status of Good, Normal, or Bad values, between the Root Access Point and the extender Access Point.
Friendly Name	Indicates the friendly name that is defined while on-boarding the extender Nokia WiFi beacon using the Nokia WiFi Mobile Application.

Note: The number of the entries in the mesh parameters table depends on number of extenders in the home network. If you have two extenders, then there will be two entries in the mesh parameters table.

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

END OF STEPS

Security configuration

8.32 Overview

8.32.1 Purpose

This chapter describes the security configuration tasks supported by G-1425G-A ONTs

8.32.2 Contents

8.32 Overview	143
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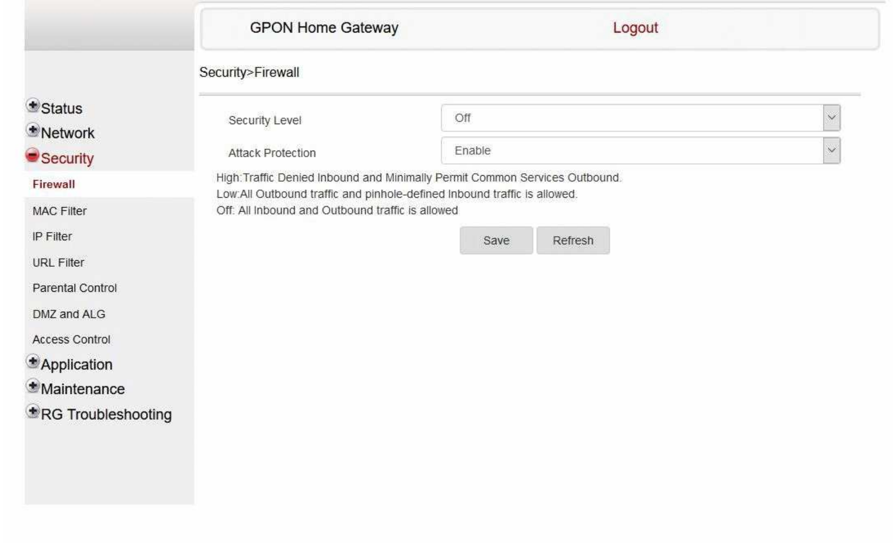
8.38 Configuring DMZ and ALG	158
8.39 Configuring access control	160

8.33 Configuring the firewall

1

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

Figure 8-33 Firewall page


GPON Home Gateway
Logout
Status
Network
Security
Firewall
MAC Filter
IP Filter
URL Filter
Parental Control
DMZ and ALG
Access Control
Application
Maintenance
RG Troubleshooting
Save
Refresh

Security>Firewall

Security Level: Off

Attack Protection: Enable

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

2

Configure the following parameters:

Table 8-27 Firewall parameters

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

3

Click **Save**.

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

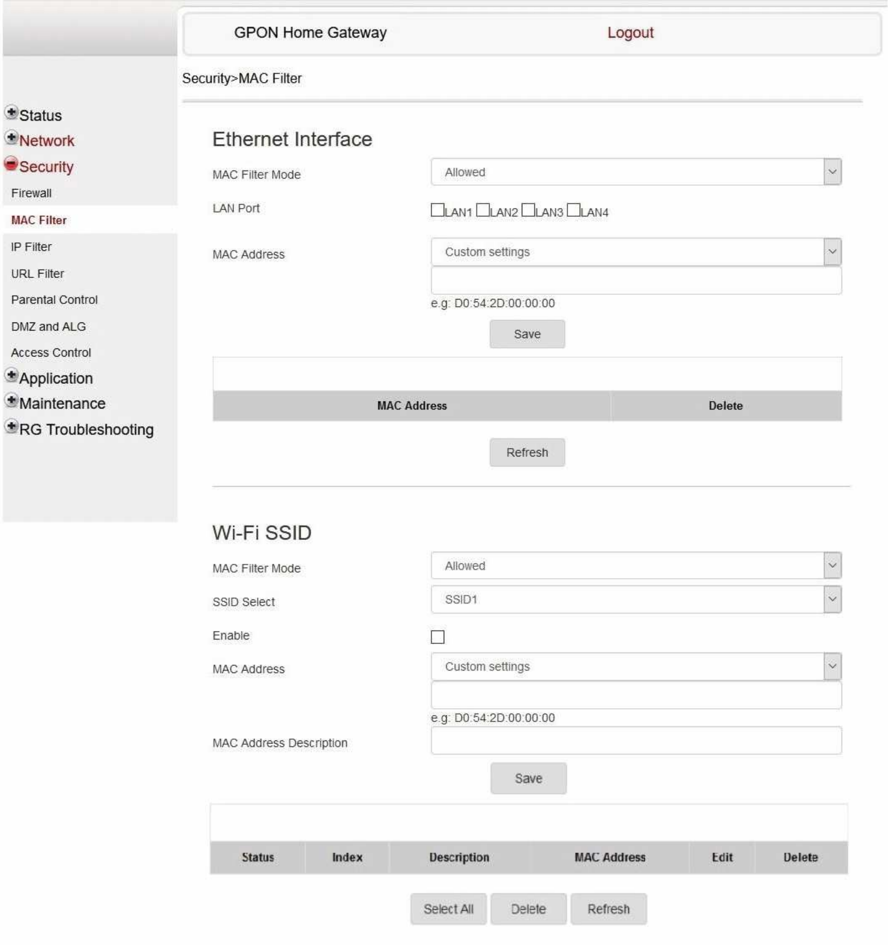
END OF STEPS

8.34 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 8-34 MAC Filter page


GPON Home Gateway
Logout
Security>MAC Filter
Status
Network
Security
Firewall
MAC Filter
IP Filter
URL Filter
Parental Control
DMZ and ALG
Access Control
Application
Maintenance
RG Troubleshooting
Ethernet Interface
Save
MAC Address
Delete
Refresh
Wi-Fi SSID
Save
Status
Index
Description
MAC Address
Edit
Delete
Select All
Delete
Refresh

MAC Filter Mode: Allowed
LAN Port: ☐LAN1 ☐LAN2 ☐LAN3 ☐LAN4
MAC Address: Custom settings
e.g: D0:54:2D:00:00:00

MAC Filter Mode: Allowed
SSID Select: SSID1
Enable: ☐
MAC Address: Custom settings
e.g: D0:54:2D:00:00:00
MAC Address Description:

2

Configure the following parameters:

Table 8-28 MAC Filter parameters

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

Table 8-28 MAC Filter parameters (continued)

Field	Description
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.
MAC Address Description	Enter the MAC address description in the text field.

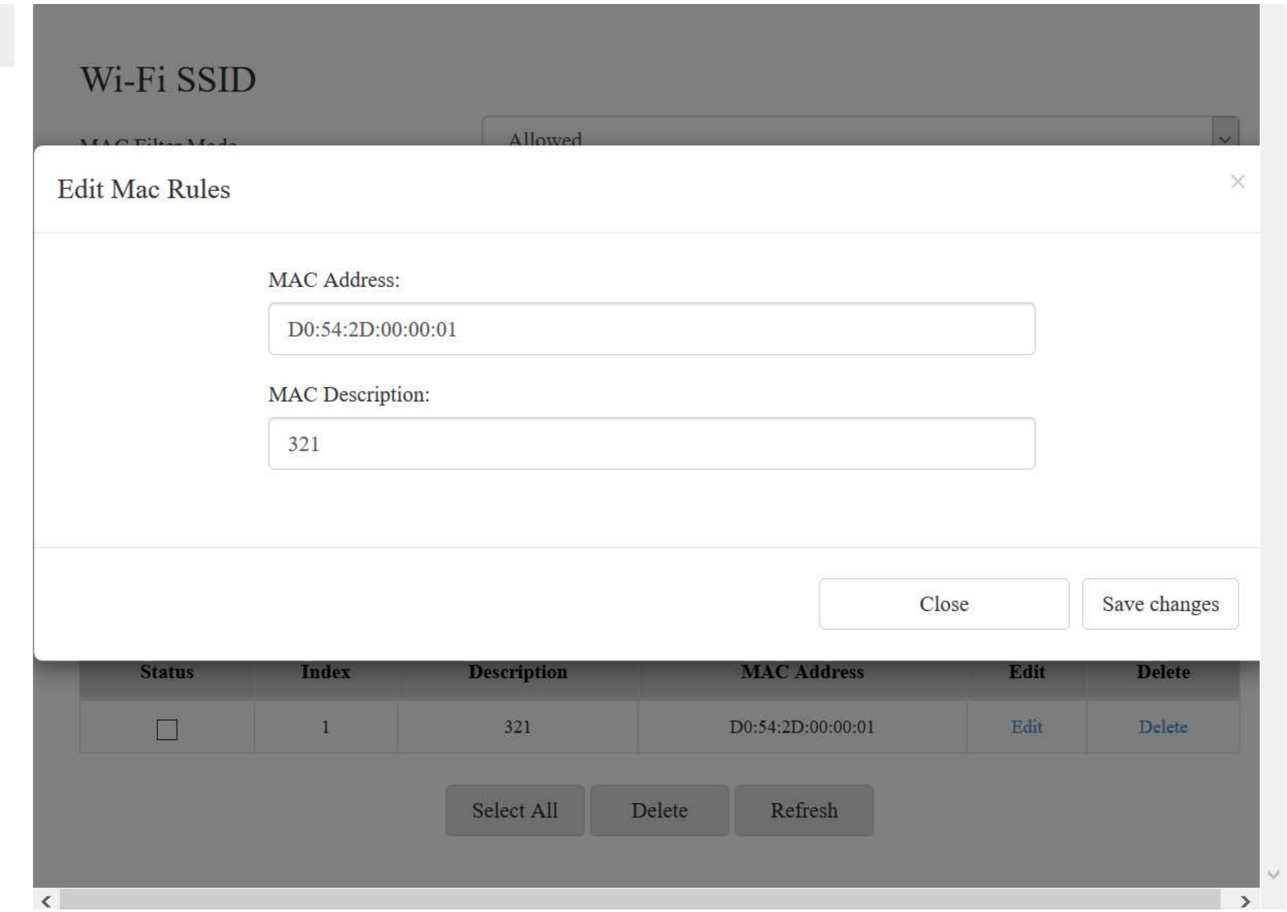
3

Click **Save**.

You can click Edit to edit the MAC rules or Delete to delete a MAC address.

Figure 8-35, "Mac rules edit page" (p. 146) shows the window for editing the MAC rules.

Figure 8-35 Mac rules edit page



MAC Address: D0:54:2D:00:00:01

MAC Description: 321

Status	Index	Description	MAC Address	Edit	Delete
☐	1	321	D0:54:2D:00:00:01	Edit	Delete

You can click **Save changes** to save the MAC rules.

You can click **Close** to close the Edit Mac Rules window.

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

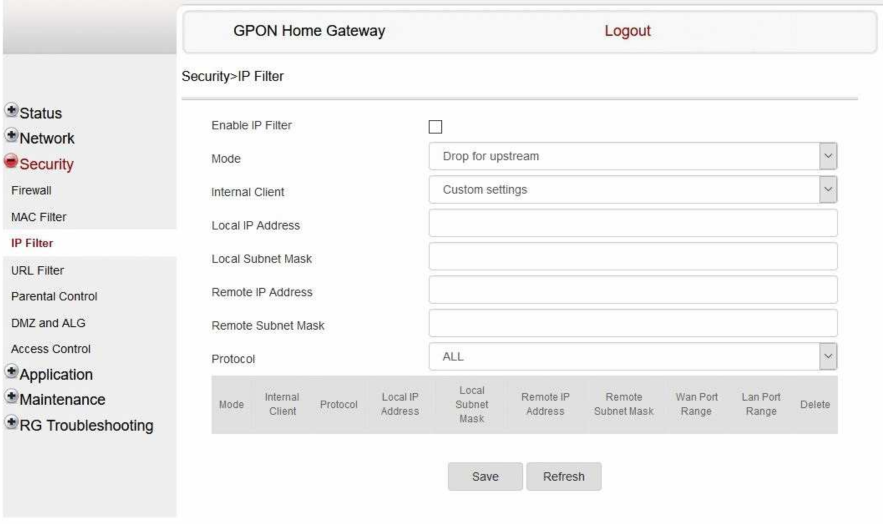
END OF STEPS

8.35 Configuring the IP filter

1

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

Figure 8-36 IP Filter page



GPON Home Gateway
Logout
Security>IP Filter
Status
Network
Security
Firewall
MAC Filter
IP Filter
URL Filter
Parental Control
DMZ and ALG
Access Control
Application
Maintenance
RG Troubleshooting
Save
Refresh

Enable IP Filter ☐
Mode: Drop for upstream
Internal Client: Custom settings
Local IP Address:
Local Subnet Mask:
Remote IP Address:
Remote Subnet Mask:
Protocol: ALL

Mode	Internal Client	Protocol	Local IP Address	Local Subnet Mask	Remote IP Address	Remote Subnet Mask	Wan Port Range	Lan Port Range	Delete

2

Configure the following parameters:

Table 8-29 IP Filter parameters

Field	Description
Enable IP Filter	Select this checkbox to enable an IP filter.

Table 8-29 IP Filter parameters (continued)

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

3

Click **Save**.

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

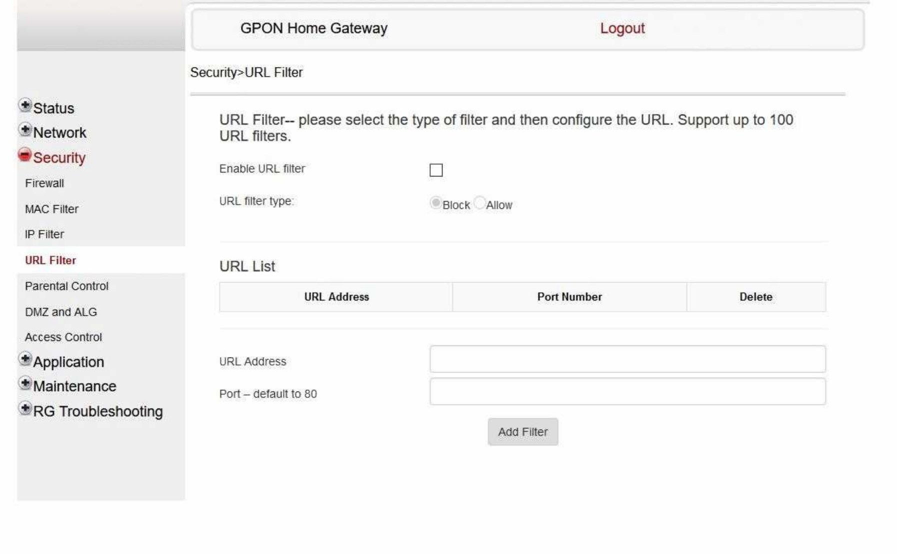
END OF STEPS

8.36 Configuring the URL filter

1

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

Figure 8-37 URL Filter page


GPON Home Gateway
Logout
Security>URL Filter
Status
Network
Security
Firewall
MAC Filter
IP Filter
URL Filter
Parental Control
DMZ and ALG
Access Control
Application
Maintenance
RG Troubleshooting
Add Filter

URL Filter-- please select the type of filter and then configure the URL. Support up to 100 URL filters.

Enable URL filter ☐

URL filter type: ● Block ○ Allow

URL List

URL Address	Port Number	Delete

URL Address

Port – default to 80

2

Configure the following parameters:

Table 8-30 URL Filter parameters

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

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

3

Click **Add Filter**.

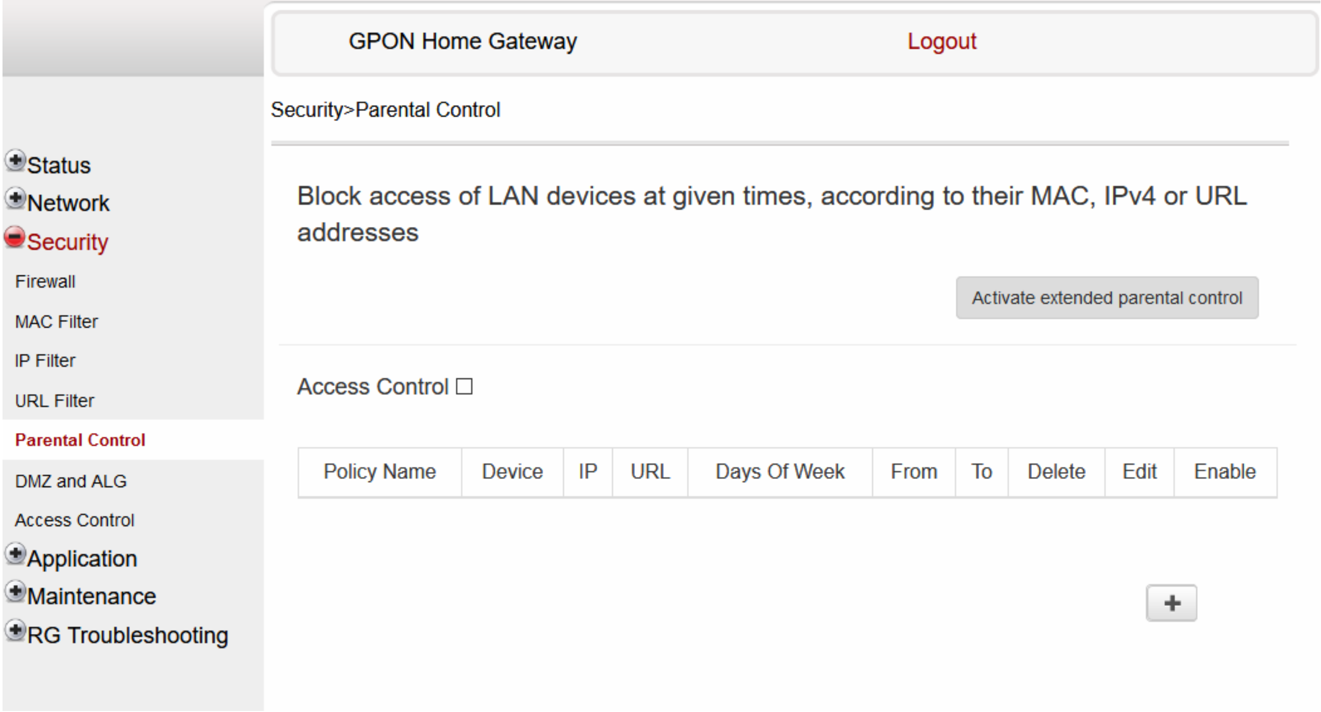
END OF STEPS

8.37 Configuring parental control

1

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

Figure 8-38 Default Parental Control page


GPON Home Gateway
Logout
Status
Network
Security
Firewall
MAC Filter
IP Filter
URL Filter
Parental Control
DMZ and ALG
Access Control
Application
Maintenance
RG Troubleshooting
Activate extended parental control
+

Security>Parental Control

Block access of LAN devices at given times, according to their MAC, IPv4 or URL addresses

Access Control ☐

Policy Name	Device	IP	URL	Days Of Week	From	To	Delete	Edit	Enable

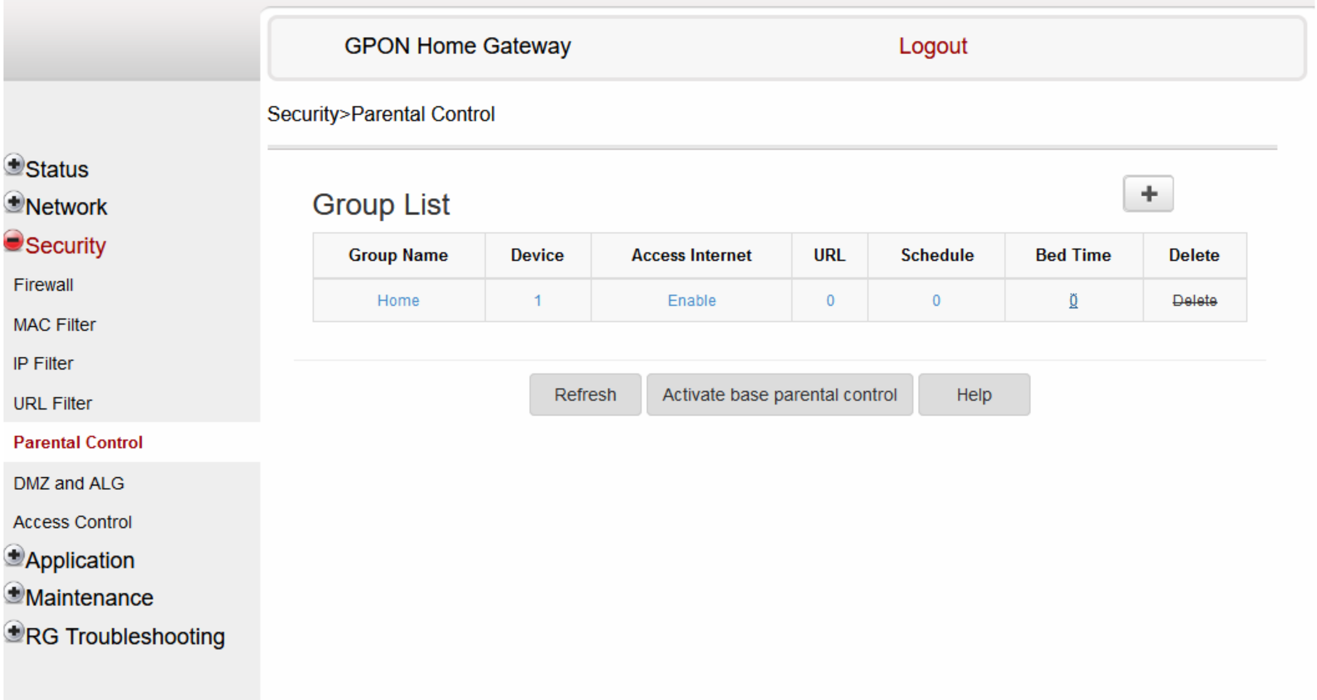
2

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

3

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

Figure 8-39 Advanced Parental control page


GPON Home Gateway
Logout
Security>Parental Control
Status
Network
Security
Firewall
MAC Filter
IP Filter
URL Filter
Parental Control
DMZ and ALG
Access Control
Application
Maintenance
RG Troubleshooting
+
Refresh
Activate base parental control
Help

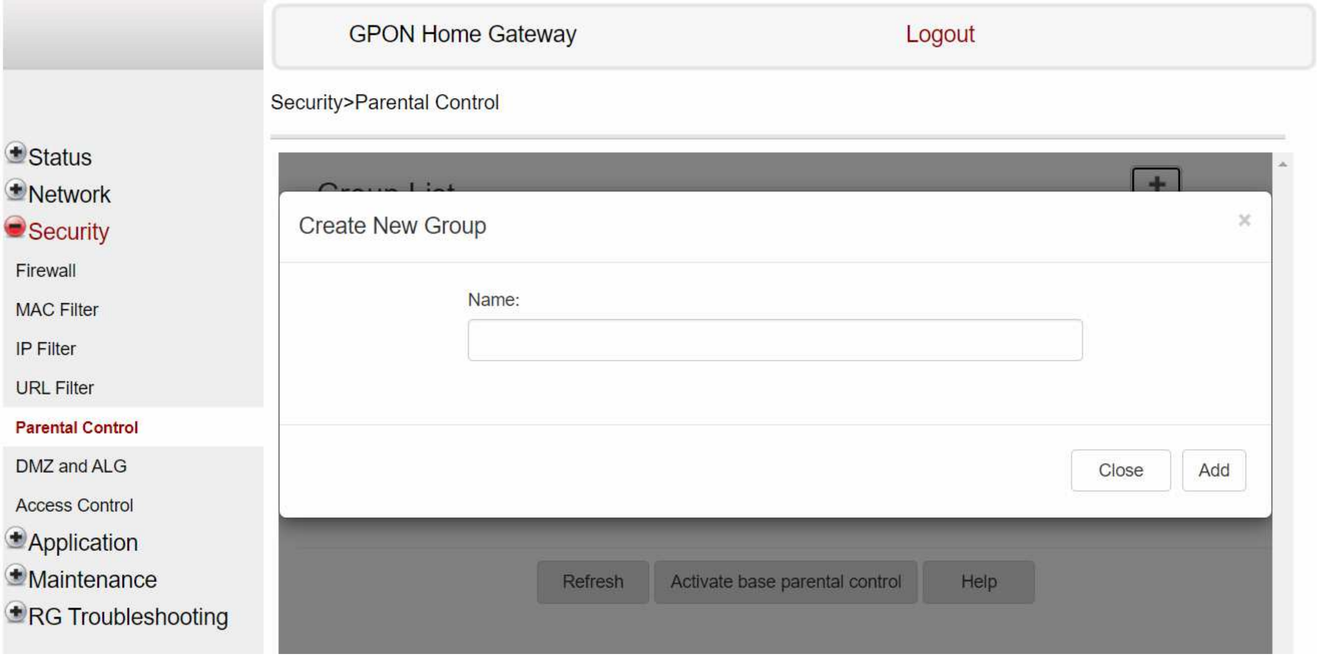
Group List

Group Name	Device	Access Internet	URL	Schedule	Bed Time	Delete
Home	1	Enable	0	0	0	~~Delete~~

4

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

Figure 8-40 Create new group page


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

5

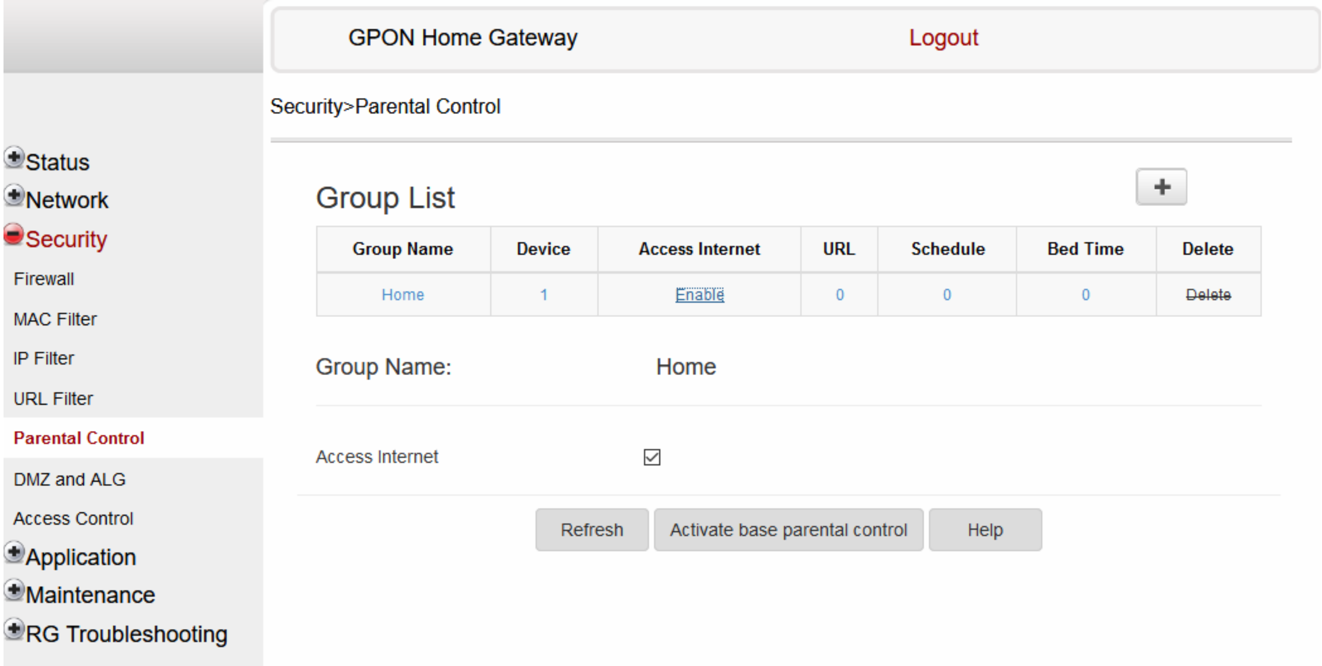
Click **Add**.

6

You can click on each field such as **Device**, **Access Internet**, **URL**, **Schedule**, and **Bed Time** to configure the related parameters.

The following page displays the parental control access internet information.

Figure 8-41 Parental control access internet page


GPON Home Gateway
Logout
Security>Parental Control
Status
Network
Security
Firewall
MAC Filter
IP Filter
URL Filter
Parental Control
DMZ and ALG
Access Control
Application
Maintenance
RG Troubleshooting
+
Refresh
Activate base parental control
Help

Group List

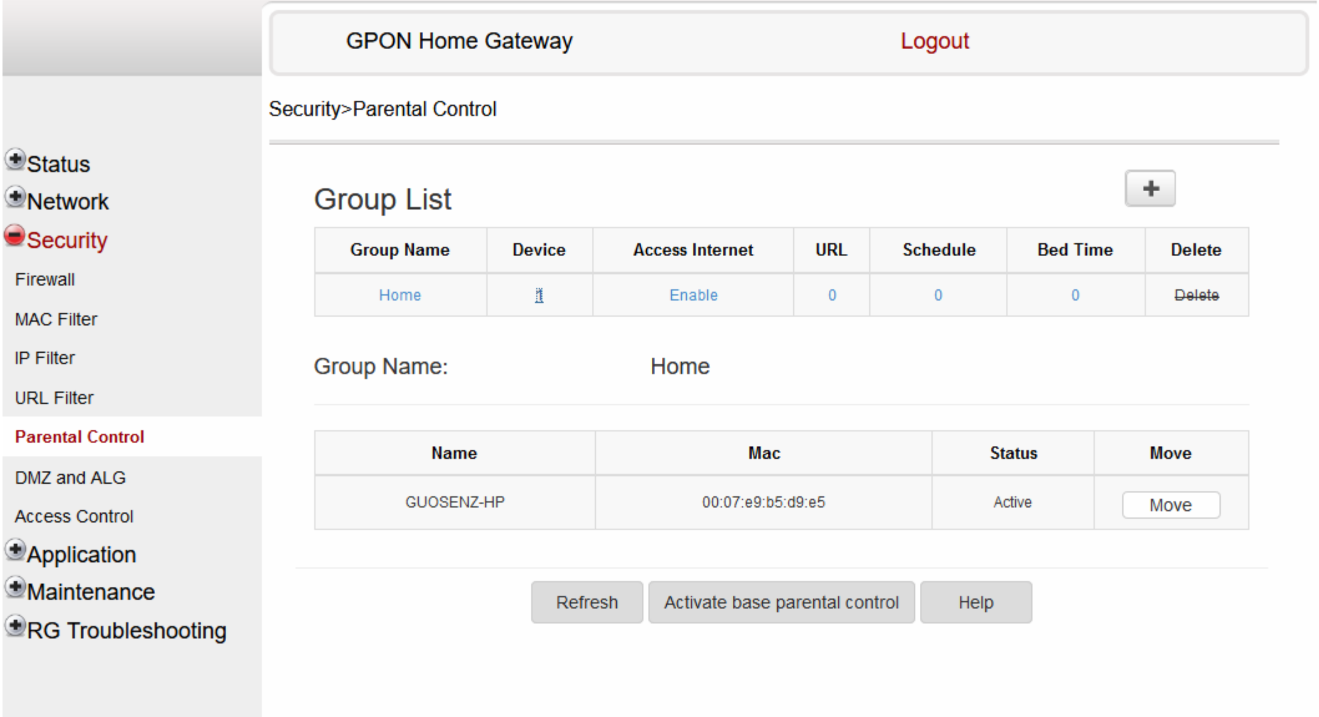
Group Name	Device	Access Internet	URL	Schedule	Bed Time	Delete
Home	1	Enable	0	0	0	~~Delete~~

Group Name: Home

Access Internet ☑

The following page displays the parental control device information.

Figure 8-42 Parental control device page


GPON Home Gateway
Logout
Security>Parental Control
Status
Network
Security
Firewall
MAC Filter
IP Filter
URL Filter
Parental Control
DMZ and ALG
Access Control
Application
Maintenance
RG Troubleshooting
+
Move
Refresh
Activate base parental control
Help

Group List

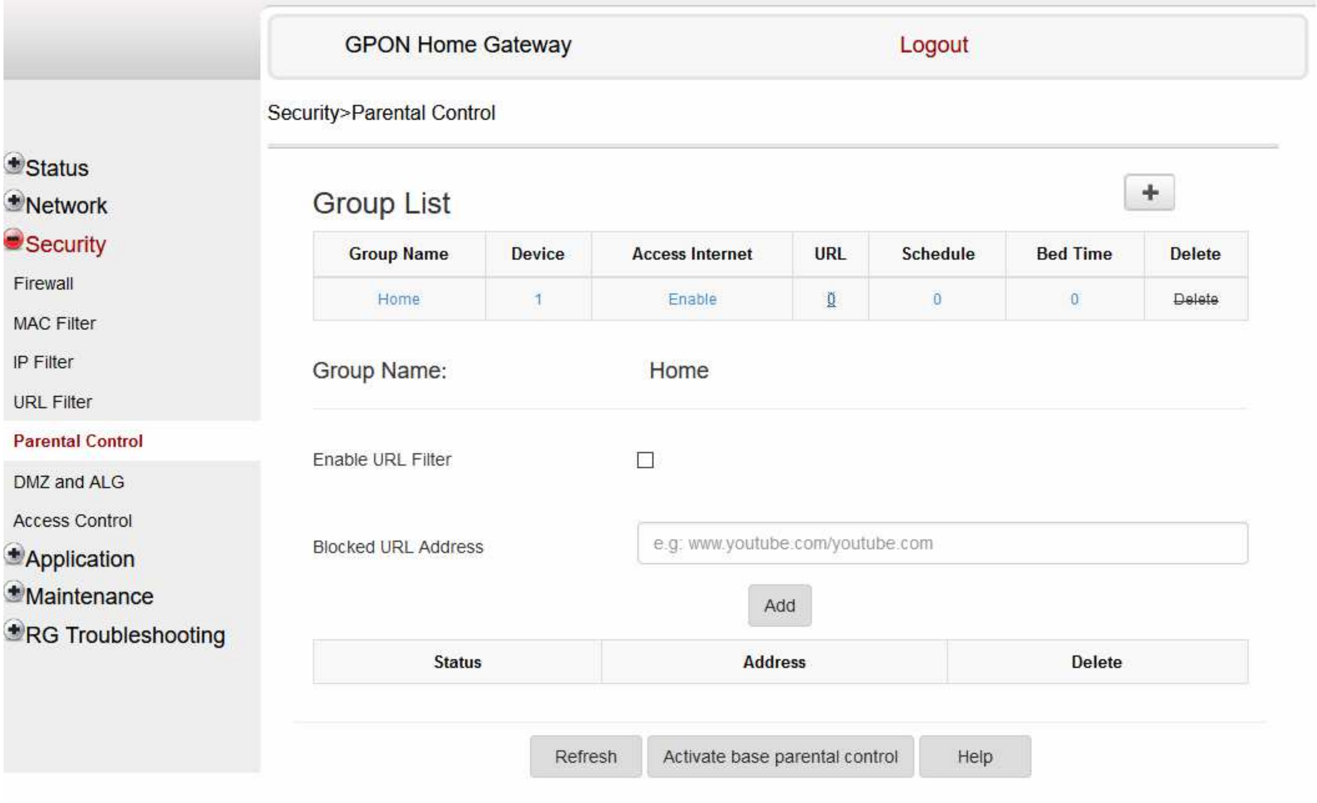
Group Name	Device	Access Internet	URL	Schedule	Bed Time	Delete
Home	1	Enable	0	0	0	~~Delete~~

Group Name: Home

Name	Mac	Status	Move
GUOSENZ-HP	00:07:e9:b5:d9:e5	Active	Move

The following page displays the parental control URL information.

Figure 8-43 Parental control URL page


GPON Home Gateway
Logout
Security>Parental Control
Status
Network
Security
Firewall
MAC Filter
IP Filter
URL Filter
Parental Control
DMZ and ALG
Access Control
Application
Maintenance
RG Troubleshooting
+
Add
Refresh
Activate base parental control
Help

Group List

Group Name	Device	Access Internet	URL	Schedule	Bed Time	Delete
Home	1	Enable	0	0	0	~~Delete~~

Group Name: Home

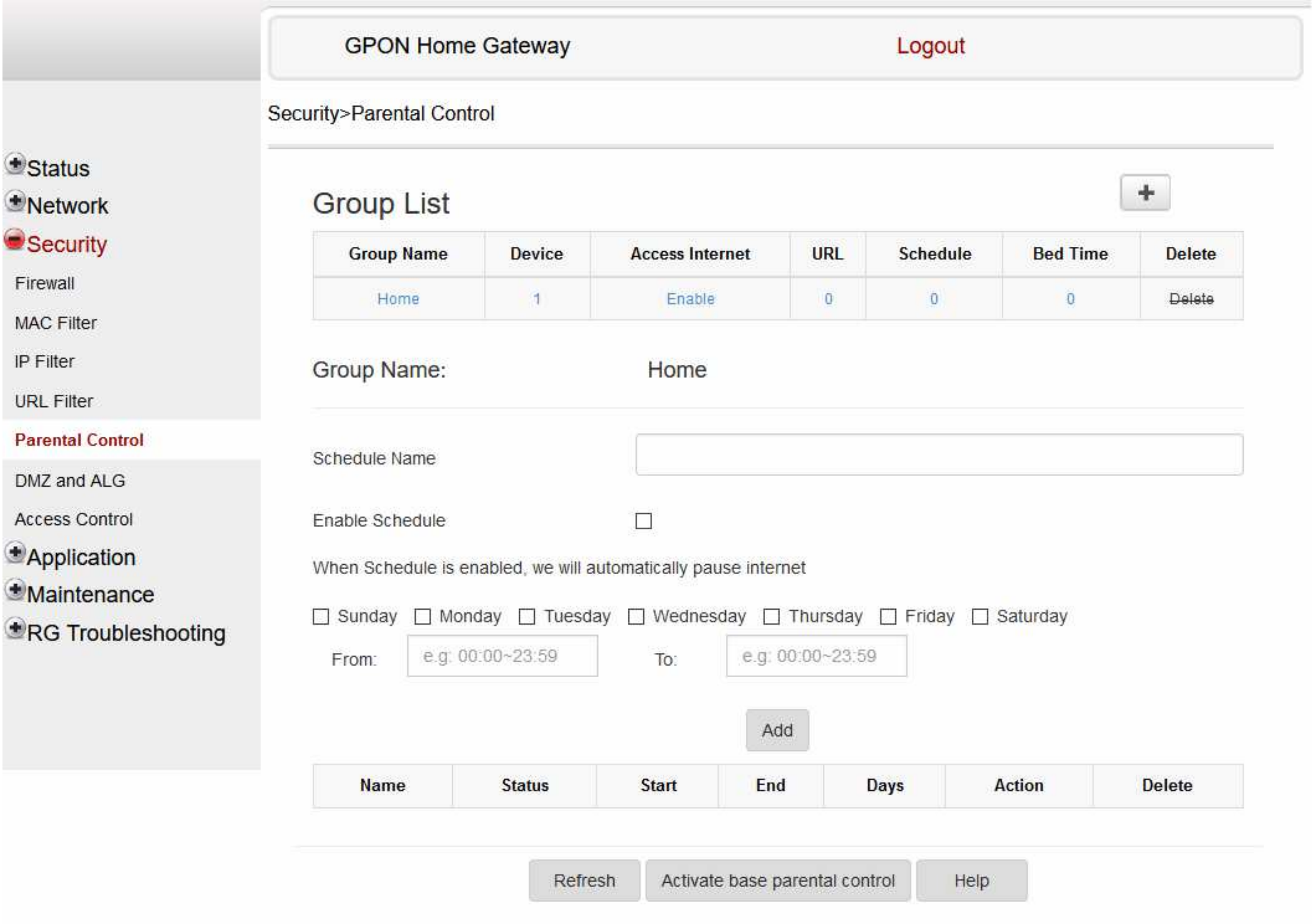
Enable URL Filter ☐

Blocked URL Address e.g: www.youtube.com/youtube.com

Status	Address	Delete

The following page displays the parental control schedule information.

Figure 8-44 Parental control schedule page


GPON Home Gateway
Logout
Security>Parental Control
Status
Network
Security
Firewall
MAC Filter
IP Filter
URL Filter
Parental Control
DMZ and ALG
Access Control
Application
Maintenance
RG Troubleshooting
+
Add
Refresh
Activate base parental control
Help

Group List

Group Name	Device	Access Internet	URL	Schedule	Bed Time	Delete
Home	1	Enable	0	0	0	~~Delete~~

Group Name: Home

Schedule Name

Enable Schedule ☐

When Schedule is enabled, we will automatically pause internet

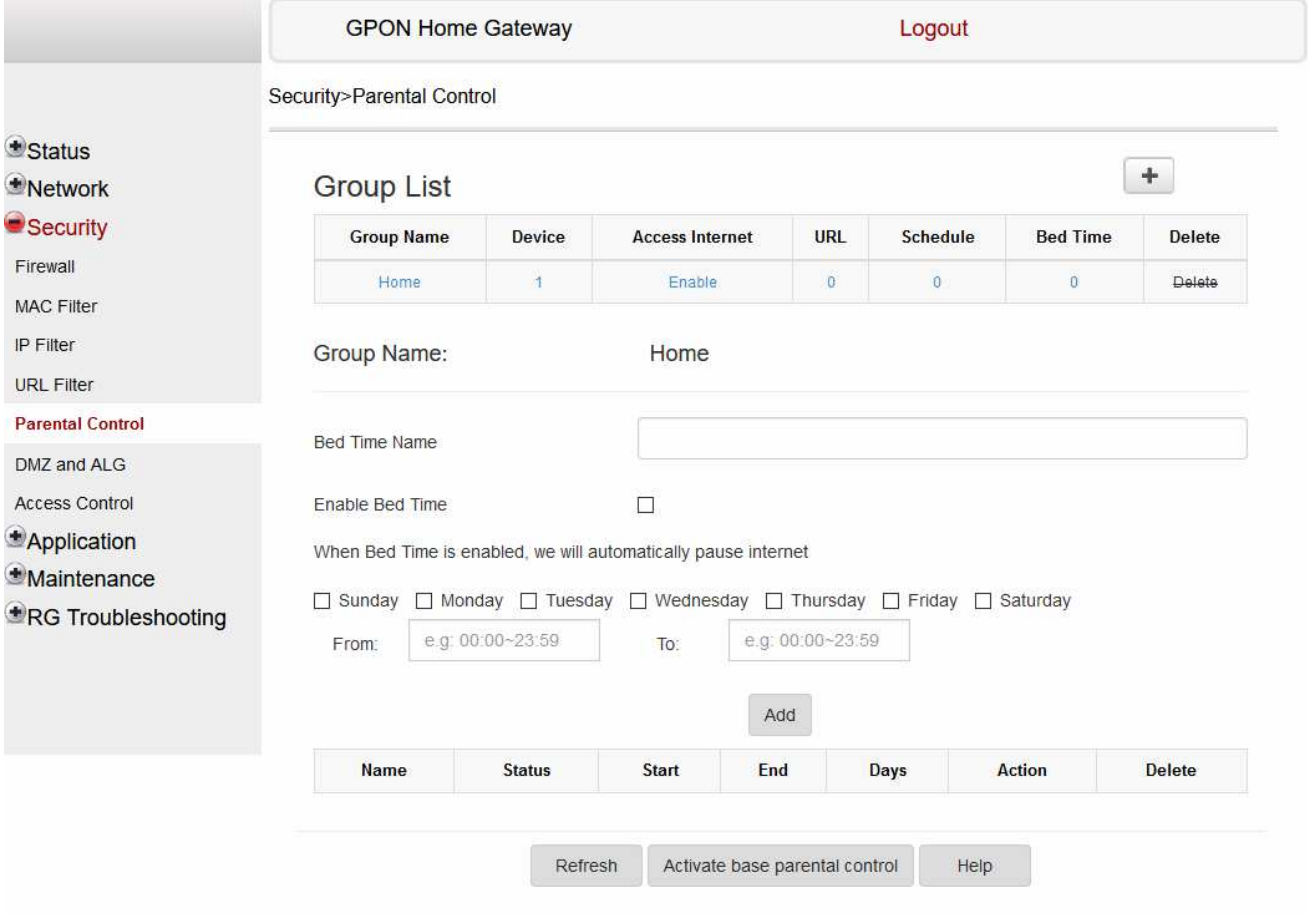
☐ Sunday ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday

From: e.g: 00:00~23:59 To: e.g: 00:00~23:59

Name	Status	Start	End	Days	Action	Delete

The following page displays the parental control bed time information.

Figure 8-45 Parental control bed time page


GPON Home Gateway
Logout
Security>Parental Control
Status
Network
Security
Firewall
MAC Filter
IP Filter
URL Filter
Parental Control
DMZ and ALG
Access Control
Application
Maintenance
RG Troubleshooting
+
Bed Time Name
Enable Bed Time ☐
When Bed Time is enabled, we will automatically pause internet
☐ Sunday ☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday ☐ Friday ☐ Saturday
From: e.g: 00:00~23:59
To: e.g: 00:00~23:59
Add
Refresh
Activate base parental control
Help

Group List

Group Name	Device	Access Internet	URL	Schedule	Bed Time	Delete
Home	1	Enable	0	0	0	~~Delete~~

Group Name: Home

Name	Status	Start	End	Days	Action	Delete

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

7

Configure the following parameters:

Table 8-31 Parental control parameters

Field	Description
Access Internet	
Access Internet	Select this checkbox to enable internet
Group Name	Displays the selected group name
Device	
Device MAC Address	Enter the MAC address and click **Add Device**.

Table 8-31 Parental control parameters (continued)

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

8

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

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

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

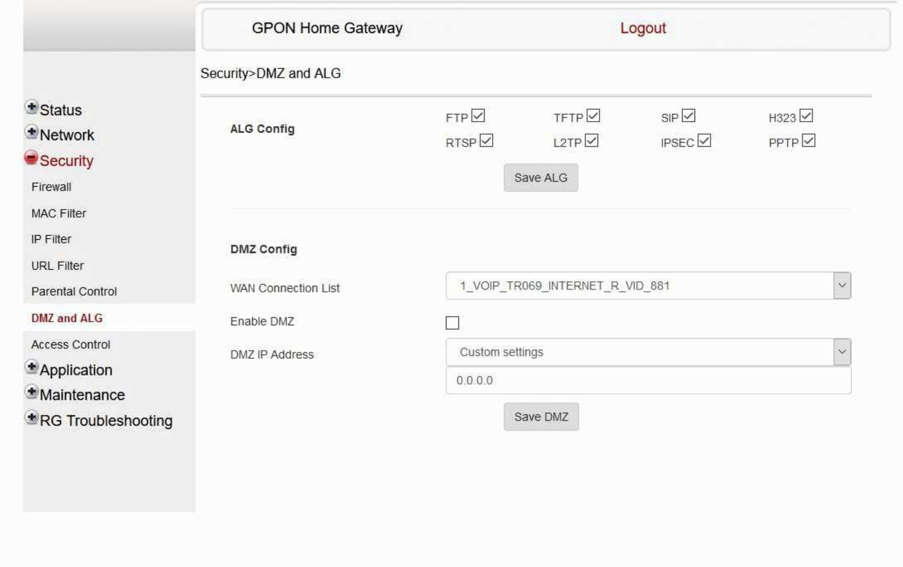
END OF STEPS

8.38 Configuring DMZ and ALG

1

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

Figure 8-46 DMZ and ALG page


GPON Home Gateway
Logout
Status
Network
Security
Firewall
MAC Filter
IP Filter
URL Filter
Parental Control
DMZ and ALG
Access Control
Application
Maintenance
RG Troubleshooting
Save ALG
Save DMZ

Security>DMZ and ALG

ALG Config

FTP ☑ TFTP ☑ SIP ☑ H323 ☑
RTSP ☑ L2TP ☑ IPSEC ☑ PPTP ☑

DMZ Config

WAN Connection List: 1_VOIP_TR069_INTERNET_R_VID_881
Enable DMZ: ☐
DMZ IP Address: Custom settings
0.0.0.0

2

Configure the following parameters:

Table 8-32 ALG parameters

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

3

Click **Save ALG**.

4

Configure the following parameters:

Table 8-33 DMZ parameters

Field	Description
WAN Connection List	Select a WAN connection from the list.
Enable DMZ	Select this checkbox to enable DMZ on the 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

8.39 Configuring access control

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

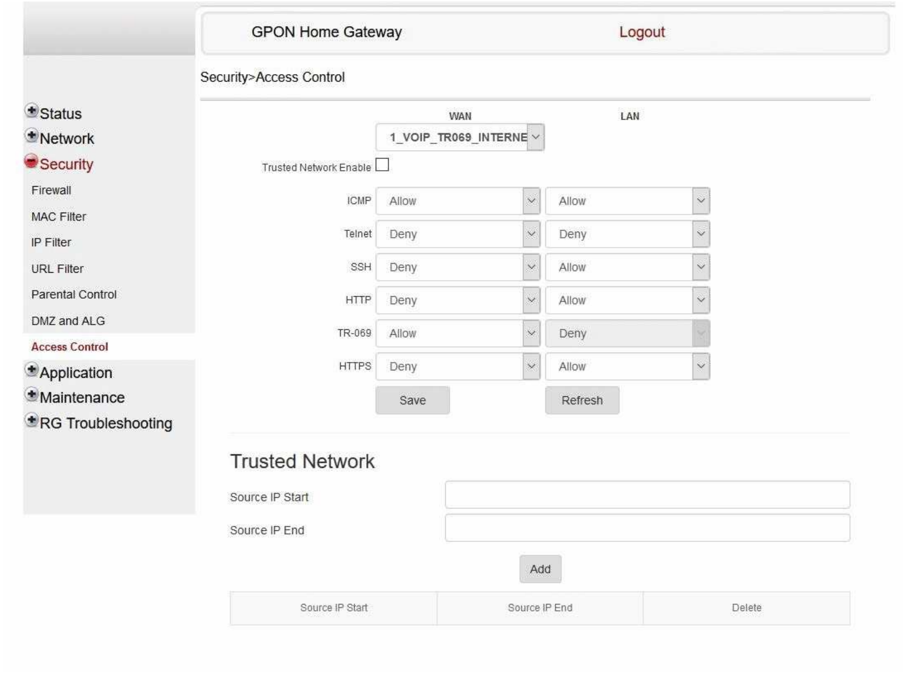
Note: ACL takes precedence over the firewall policy.

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 8-47 Access Control page


GPON Home Gateway
Logout
Security>Access Control
Status
Network
Security
Firewall
MAC Filter
IP Filter
URL Filter
Parental Control
DMZ and ALG
Access Control
Application
Maintenance
RG Troubleshooting
Save
Refresh
Trusted Network
Add

WAN: 1_VOIP_TR069_INTERNE

Trusted Network Enable ☐

	WAN	LAN
ICMP	Allow	Allow
Telnet	Deny	Deny
SSH	Deny	Allow
HTTP	Deny	Allow
TR-069	Allow	Deny
HTTPS	Deny	Allow

Source IP Start

Source IP End

Source IP Start	Source IP End	Delete

2

Configure the following parameters:

Table 8-34 Access Control parameters

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

3

Click **Save**.

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

4

Optionally, add one or more subnet trusted networks.

The maximum number of entries is 32.

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

Table 8-35 Trusted Network parameters

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

5

Click **Add**.

END OF STEPS

Configuring the Application

8.40 Overview

8.40.1 Purpose

This chapter describes the application configuration tasks supported by the G-1425G-A ONTs.

8.40.2 Contents

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8.43 Configuring DDNS	165
8.44 Configuring NTP	167
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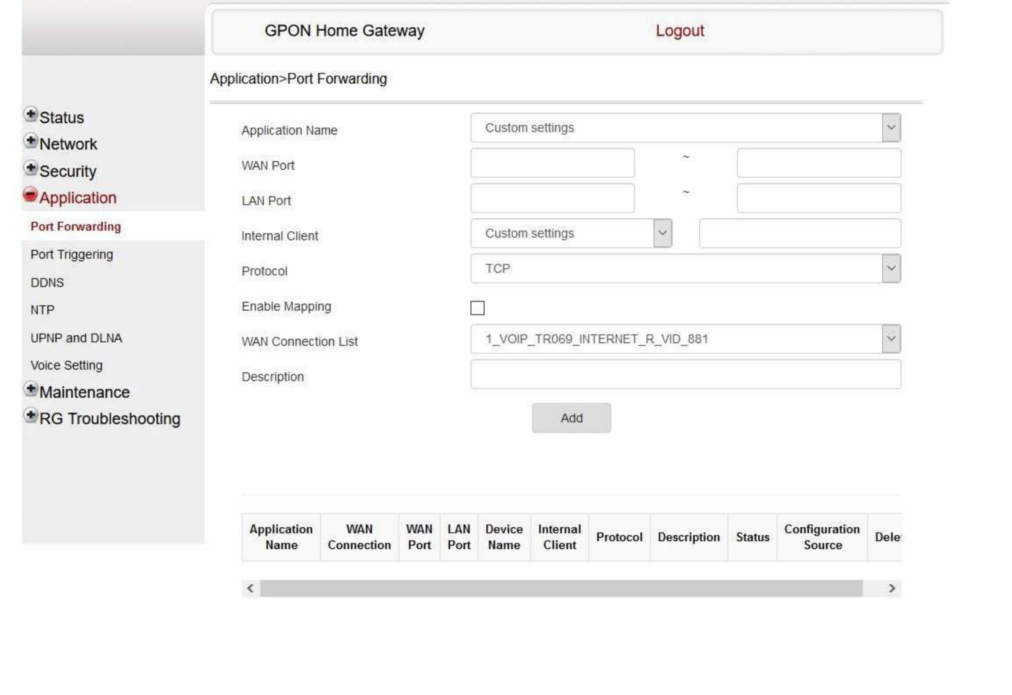
8.41 Configuring port forwarding

1

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

Figure 8-48 Port Forwarding page


GPON Home Gateway
Logout
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Application
Port Forwarding
Port Triggering
DDNS
NTP
UPNP and DLNA
Voice Setting
Maintenance
RG Troubleshooting
Add

Application>Port Forwarding

Application Name: Custom settings
WAN Port: ~
LAN Port: ~
Internal Client: Custom settings
Protocol: TCP
Enable Mapping: ☐
WAN Connection List: 1_VOIP_TR069_INTERNET_R_VID_881
Description:

Application Name	WAN Connection	WAN Port	LAN Port	Device Name	Internal Client	Protocol	Description	Status	Configuration Source	Dele

2

Configure the following parameters:

Table 8-36 Port Forwarding 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**
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**.

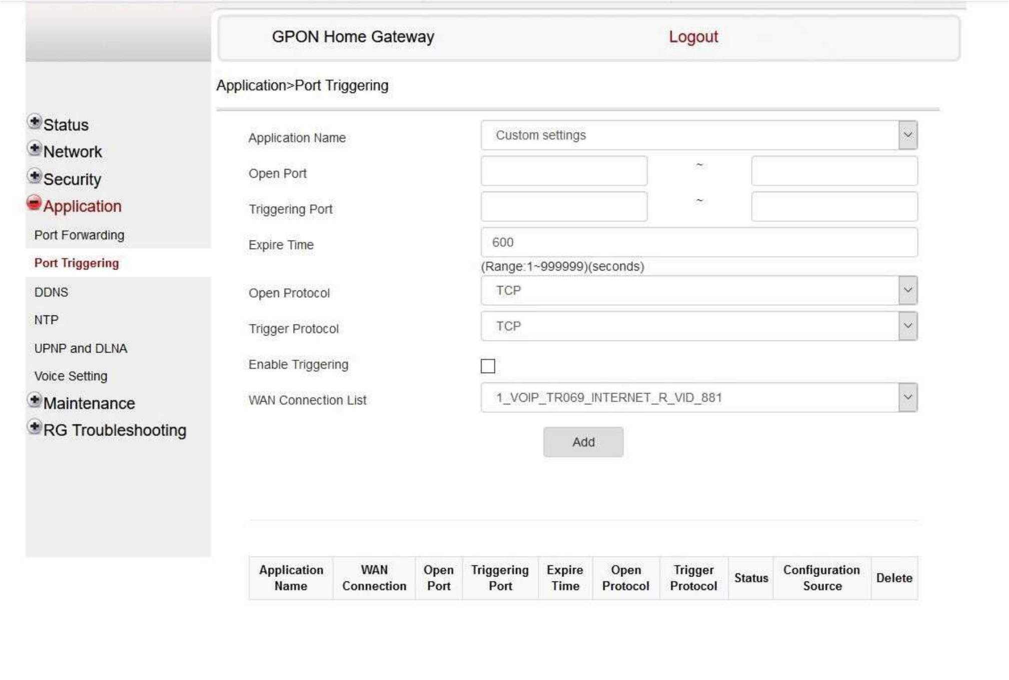
End of steps

8.42 Configuring port triggering

1

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

Figure 8-49 Port Triggering page


GPON Home Gateway
Logout
Status
Network
Security
Application
Port Forwarding
Port Triggering
DDNS
NTP
UPNP and DLNA
Voice Setting
Maintenance
RG Troubleshooting
Add

Application>Port Triggering

Application Name	Custom settings
Open Port	~
Triggering Port	~
Expire Time	600 (Range:1~999999)(seconds)
Open Protocol	TCP
Trigger Protocol	TCP
Enable Triggering	☐
WAN Connection List	1_VOIP_TR069_INTERNET_R_VID_881

Application Name	WAN Connection	Open Port	Triggering Port	Expire Time	Open Protocol	Trigger Protocol	Status	Configuration Source	Delete

2

Configure the following parameters:

Table 8-37 Port Triggering parameters

Field	Description
Application Name	Select an application name from the list. The default is **Custom settings**.
Open Port	Enter the open port range.

Table 8-37 Port Triggering parameters (continued)

Field	Description
Triggering Port	Enter the triggering port range.
Expire Time	Enter the expiration time in seconds.
Open Protocol	Select the open port protocol from the list: • **TCP** • **UDP** • **TCP/UDP**
Trigger Protocol	Select the triggering port protocol from the list: • **TCP** • **UDP** • **TCP/UDP**
Enable Triggering	Select this checkbox to enable port triggering.
WAN Connection List	Select a WAN connection from the list. Note: Only active devices are shown on this list.

3

Click **Add**.

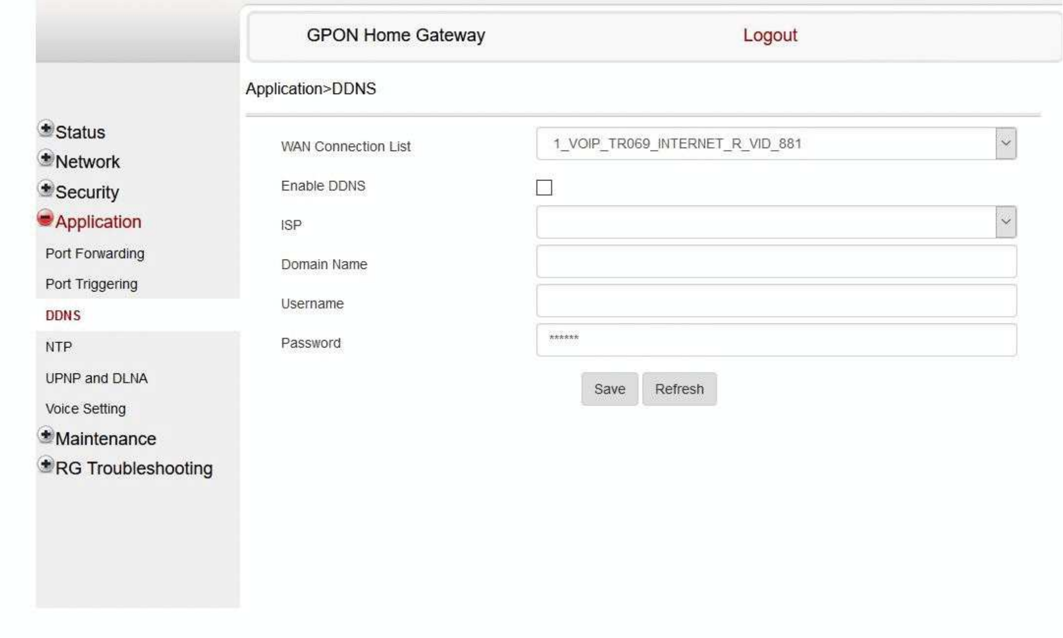
END OF STEPS

8.43 Configuring DDNS

1

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

Figure 8-50 DDNS page


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

WAN Connection List: 1_VOIP_TR069_INTERNET_R_VID_881
Enable DDNS: ☐
ISP:
Domain Name:
Username:
Password: ******

2

Configure the following parameters:

Table 8-38 DDNS parameters

Field	Description
WAN Connection List	Select a WAN connection from the list.
Enable DDNS	Select this checkbox to enable DDNS on the 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**.

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

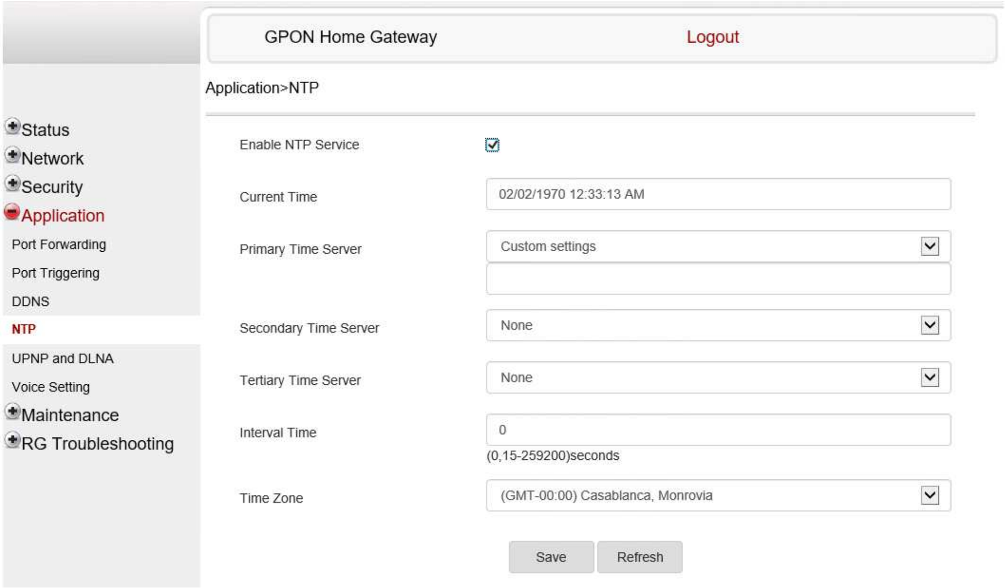
END OF STEPS

8.44 Configuring NTP

1

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

Figure 8-51 NTP page



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

Application>NTP

Enable NTP Service ☑

Current Time: 02/02/1970 12:33:13 AM

Primary Time Server: Custom settings

Secondary Time Server: None

Tertiary Time Server: None

Interval Time: 0
(0,15-259200)seconds

Time Zone: (GMT-00:00) Casablanca, Monrovia

2

Configure the following parameters:

Table 8-39 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 select **Custom settings** and enter the address of the time server.
Secondary Time Server	Select a time server from the list or select **Custom settings** and enter the address of the time server.
Tertiary Time Server	Select a time server from the list or select **Custom settings** 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**.

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

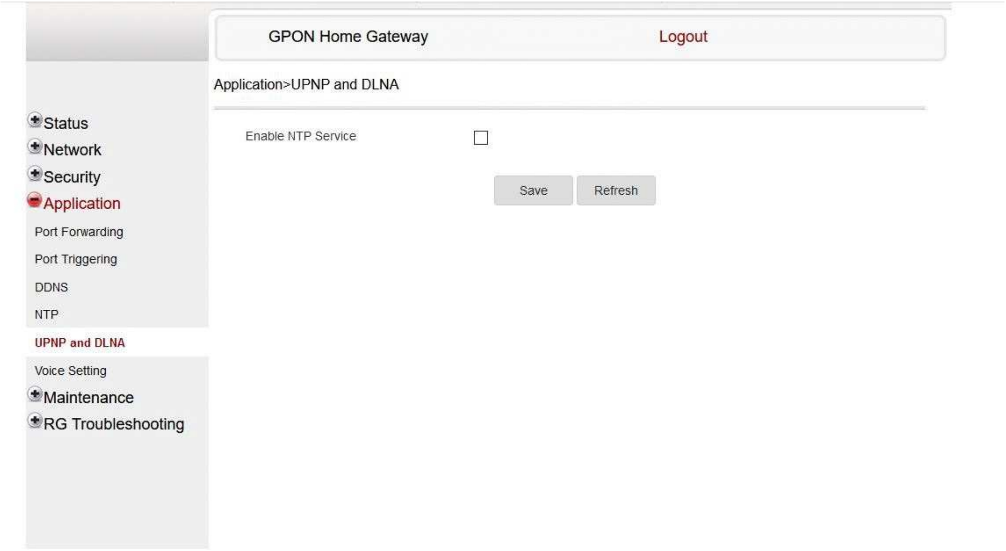
END OF STEPS

8.45 Configuring UPnP and DLNA

1

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

Figure 8-52 UPnP and DLNA page


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

Application>UPNP and DLNA

Enable NTP Service ☐

2

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

3

Click **Save**.

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

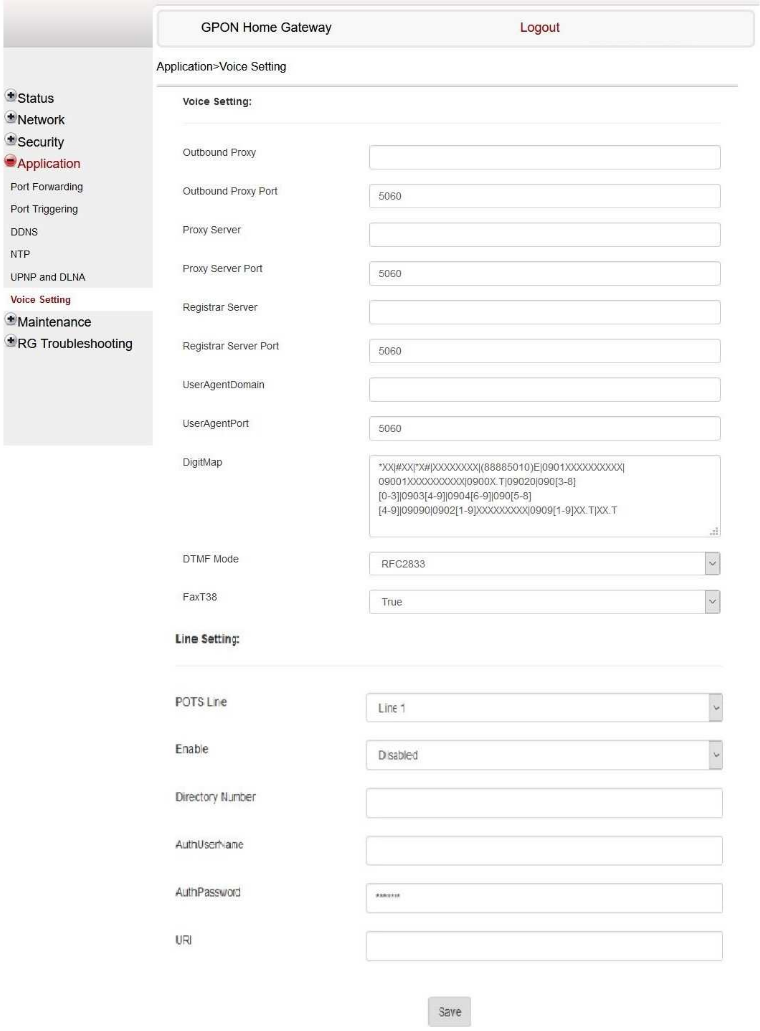
END OF STEPS

8.46 Configuring voice

1

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

Figure 8-53 Voice Setting page


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

Voice Setting:

Outbound Proxy
Outbound Proxy Port: 5060
Proxy Server
Proxy Server Port: 5060
Registrar Server
Registrar Server Port: 5060
UserAgentDomain
UserAgentPort: 5060
DigitMap: *XX|#XX|*X#|XXXXXXXX|(88885010)E|0901XXXXXXXXXX|09001XXXXXXXXXX|0900X.T|09020|090[3-8][0-3]|0903[4-9]|0904[6-9]|090[5-8][4-9]|09090|0902[1-9]XXXXXXXXX|0909[1-9]XX.T|XX.T
DTMF Mode: RFC2833
FaxT38: True

Line Setting:

POTS Line: Line 1
Enable: Disabled
Directory Number
AuthUserName
AuthPassword: *******
URI

2

Configure the following parameters:

Table 8-40 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

8.47 Overview

8.47.1 Purpose

This chapter describes the maintenance tasks supported by G-1425G-A ONTs.

8.47.2 Contents

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8.48 Configuring the password

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

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

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

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

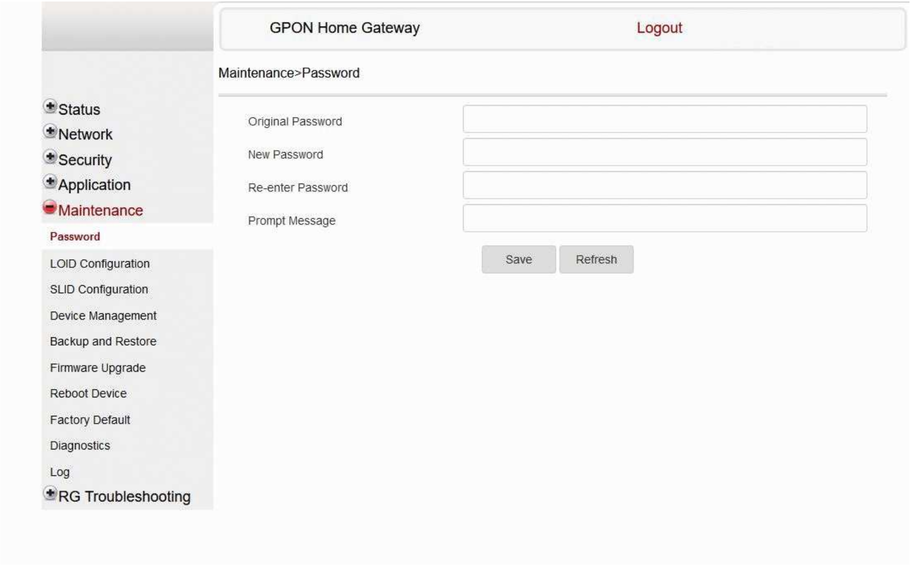
- the password is too short
- the password is too long

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

1

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

Figure 8-54 Password page


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

2

Configure the following parameters:

Table 8-41 Password parameters

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

3

Click **Save**.

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

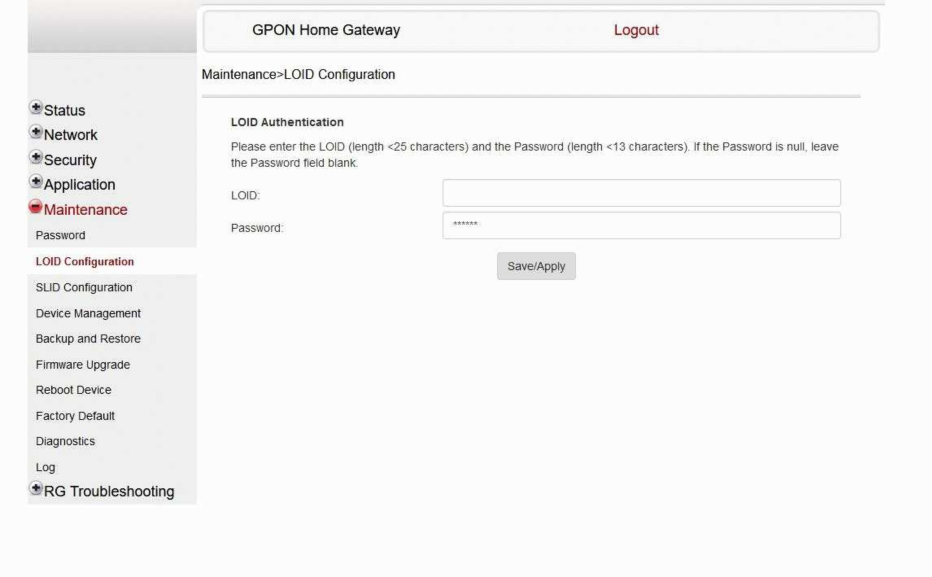
END OF STEPS

8.49 Configuring LOID

1

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

Figure 8-55 LOID Configuration page


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

Maintenance>LOID Configuration

LOID Authentication

Please enter the LOID (length <25 characters) and the Password (length <13 characters). If the Password is null, leave the Password field blank.

LOID:

Password: ******

2

Configure the following parameters:

Table 8-42 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**.

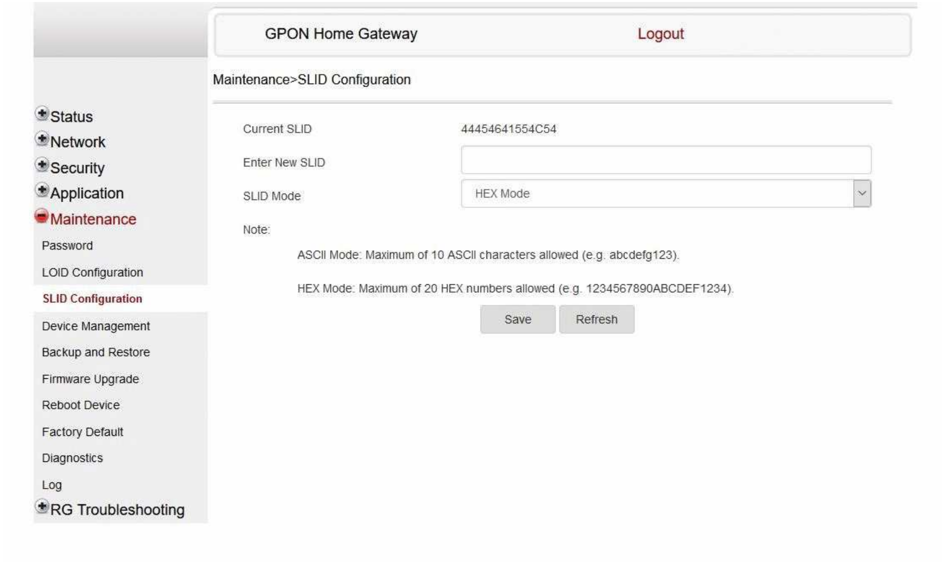
END OF STEPS

8.50 Configuring SLID

1

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

Figure 8-56 SLID Configuration page


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

Maintenance>SLID Configuration

Current SLID 44454641554C54

Enter New SLID

SLID Mode HEX Mode

Note:

ASCII Mode: Maximum of 10 ASCII characters allowed (e.g. abcdefg123).

HEX Mode: Maximum of 20 HEX numbers allowed (e.g. 1234567890ABCDEF1234).

2

Configure the following parameters:

Table 8-43 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**.

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

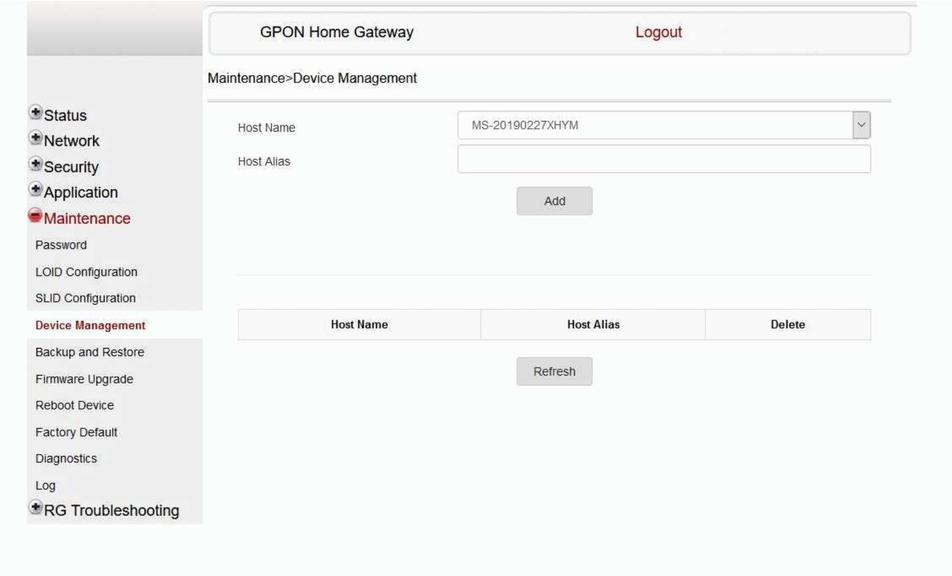
End of steps

8.51 Managing the device

1

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

Figure 8-57 Device Management page



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

Maintenance>Device Management

Host Name: MS-20190227XHYM

Host Alias:

Host Name	Host Alias	Delete

2

Configure the following parameters:

Table 8-44 Device Management parameters

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

3

Click **Add**.

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

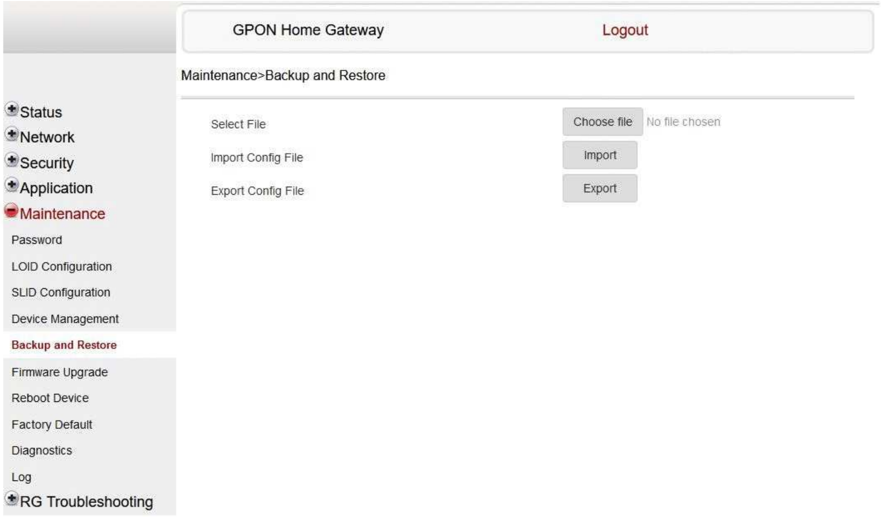
END OF STEPS

8.52 Backing up the configuration

1

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

Figure 8-58 Backup and Restore page


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

2

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

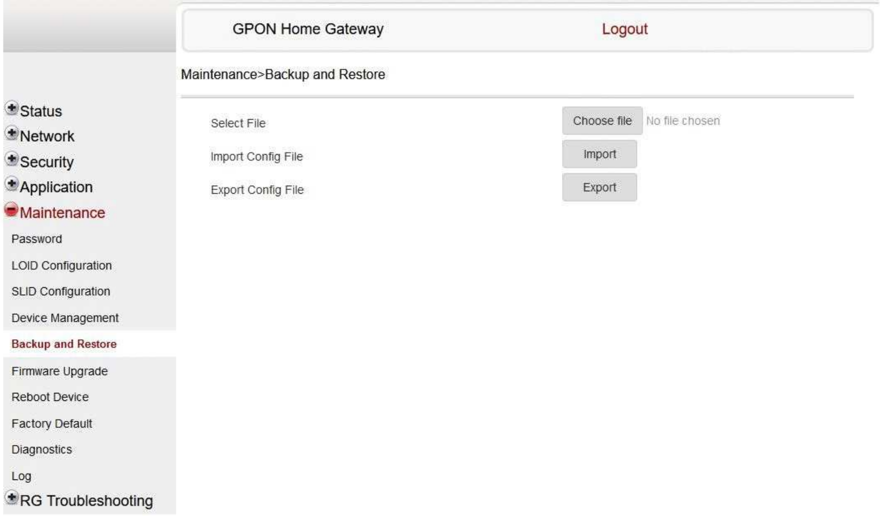
END OF STEPS

8.53 Restoring the configuration

1

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

Figure 8-59 Backup and Restore page


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

2

Click **Choose file** and select a backup file.

3

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

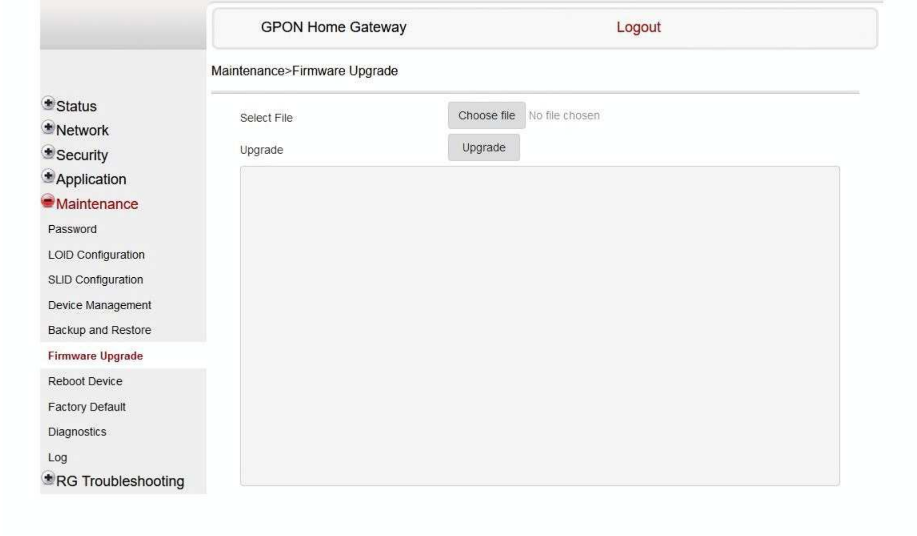
END OF STEPS

8.54 Upgrading firmware

1

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

Figure 8-60 Firmware Upgrade page


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

2

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

3

Click **Upgrade** to upgrade the firmware.

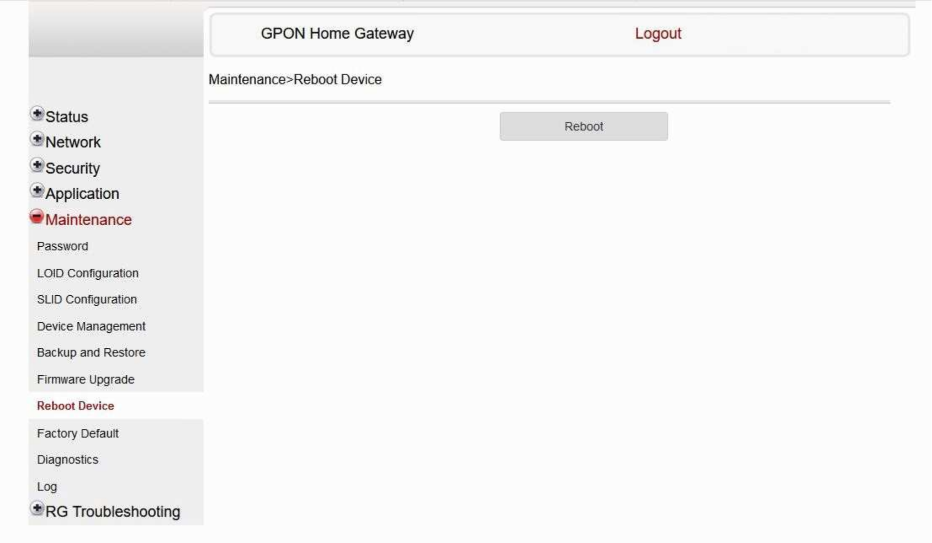
END OF STEPS

8.55 Rebooting the device

1

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

Figure 8-61 Reboot Device page


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

2

Click **Reboot** to reboot the ONT.

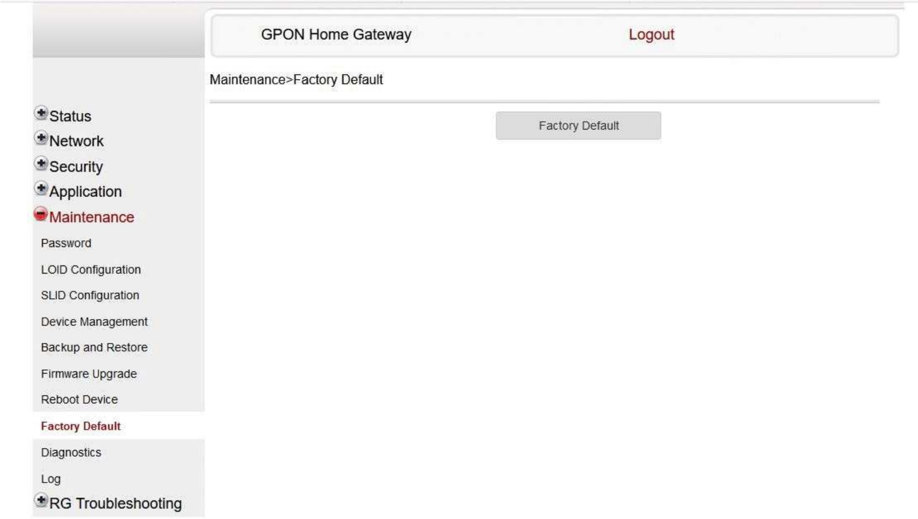
END OF STEPS

8.56 Resetting to factory defaults

1

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

Figure 8-62 Factory Default page


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

2

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

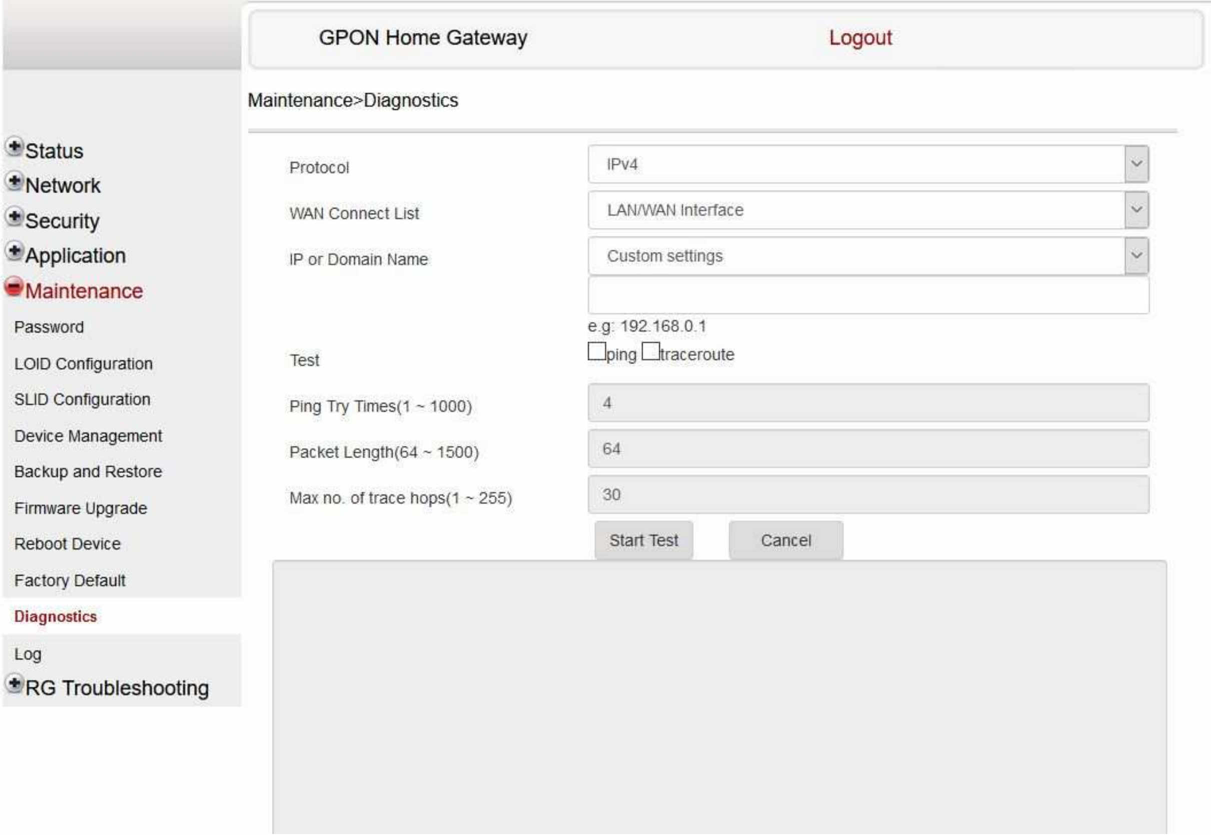
END OF STEPS

8.57 Diagnosing WAN connections

1

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

Figure 8-63 Diagnostics page


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

Maintenance>Diagnostics

Protocol: IPv4
WAN Connect List: LAN/WAN Interface
IP or Domain Name: Custom settings
e.g: 192.168.0.1
Test: ☐ping ☐traceroute
Ping Try Times(1 ~ 1000): 4
Packet Length(64 ~ 1500): 64
Max no. of trace hops(1 ~ 255): 30

2

Choose IPv4 or IPv6 to select the protocol type from the drop-down menu.

3

Select a WAN connection to diagnose from the list.

4

Enter the IP address or domain name.

5

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

6

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

7

Enter a ping packet length (64-1500); the default is 64.

8

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

9

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

10

Click **Cancel** to cancel the test.

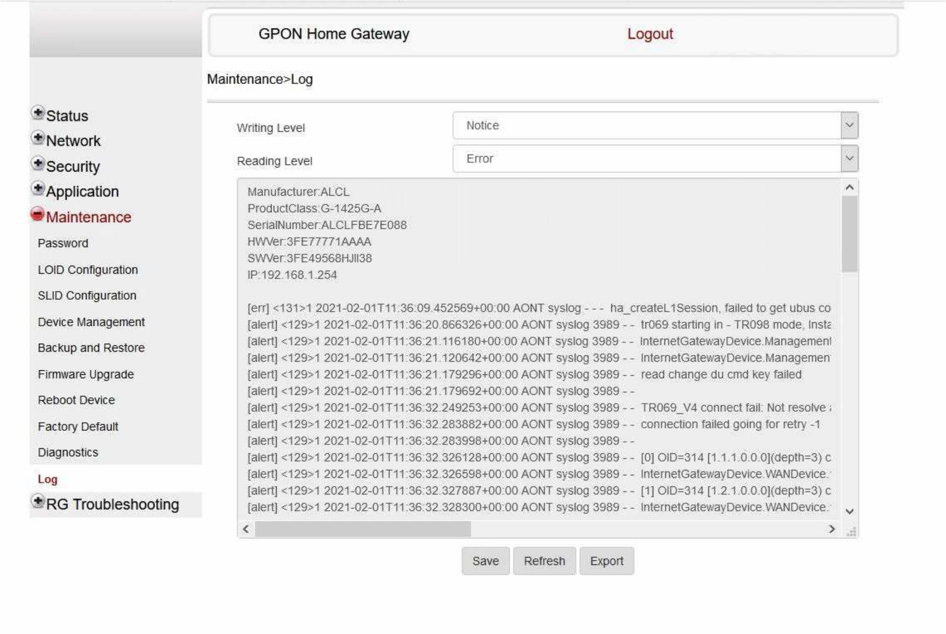
END OF STEPS

8.58 Viewing log files

1

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

Figure 8-64 Log page


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

Writing Level: Notice

Reading Level: Error

```
Manufacturer:ALCL
ProductClass:G-1425G-A
SerialNumber:ALCLFBE7E088
HWVer:3FE77771AAAA
SWVer:3FE49568HJII38
IP:192.168.1.254

[err] <131>1 2021-02-01T11:36:09.452569+00:00 AONT syslog - - -  ha_createL1Session, failed to get ubus co
[alert] <129>1 2021-02-01T11:36:20.866326+00:00 AONT syslog 3989 - -  tr069 starting in - TR098 mode, Insta
[alert] <129>1 2021-02-01T11:36:21.116180+00:00 AONT syslog 3989 - -  InternetGatewayDevice.Managemen
[alert] <129>1 2021-02-01T11:36:21.120642+00:00 AONT syslog 3989 - -  InternetGatewayDevice.Managemen
[alert] <129>1 2021-02-01T11:36:21.179296+00:00 AONT syslog 3989 - -  read change du cmd key failed
[alert] <129>1 2021-02-01T11:36:21.179692+00:00 AONT syslog 3989 - -
[alert] <129>1 2021-02-01T11:36:32.249253+00:00 AONT syslog 3989 - -  TR069_V4 connect fail: Not resolve
[alert] <129>1 2021-02-01T11:36:32.283882+00:00 AONT syslog 3989 - -  connection failed going for retry -1
[alert] <129>1 2021-02-01T11:36:32.283998+00:00 AONT syslog 3989 - -
[alert] <129>1 2021-02-01T11:36:32.326128+00:00 AONT syslog 3989 - -  [0] OID=314 [1.1.1.0.0.0](depth=3) c
[alert] <129>1 2021-02-01T11:36:32.326598+00:00 AONT syslog 3989 - -  InternetGatewayDevice.WANDevice.
[alert] <129>1 2021-02-01T11:36:32.327887+00:00 AONT syslog 3989 - -  [1] OID=314 [1.2.1.0.0.0](depth=3) c
[alert] <129>1 2021-02-01T11:36:32.328300+00:00 AONT syslog 3989 - -  InternetGatewayDevice.WANDevice.
```

2

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

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

3

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

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

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

4

Click **Save**.

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

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

END OF STEPS

RG Troubleshooting Counters

8.59 Overview

8.59.1 Purpose

This section describes the RG troubleshooting counters GUI procedures.

8.59.2 Contents

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8.60 Viewing Residential Gateway (RG) troubleshooting counters	184

8.60 Viewing Residential Gateway (RG) troubleshooting counters

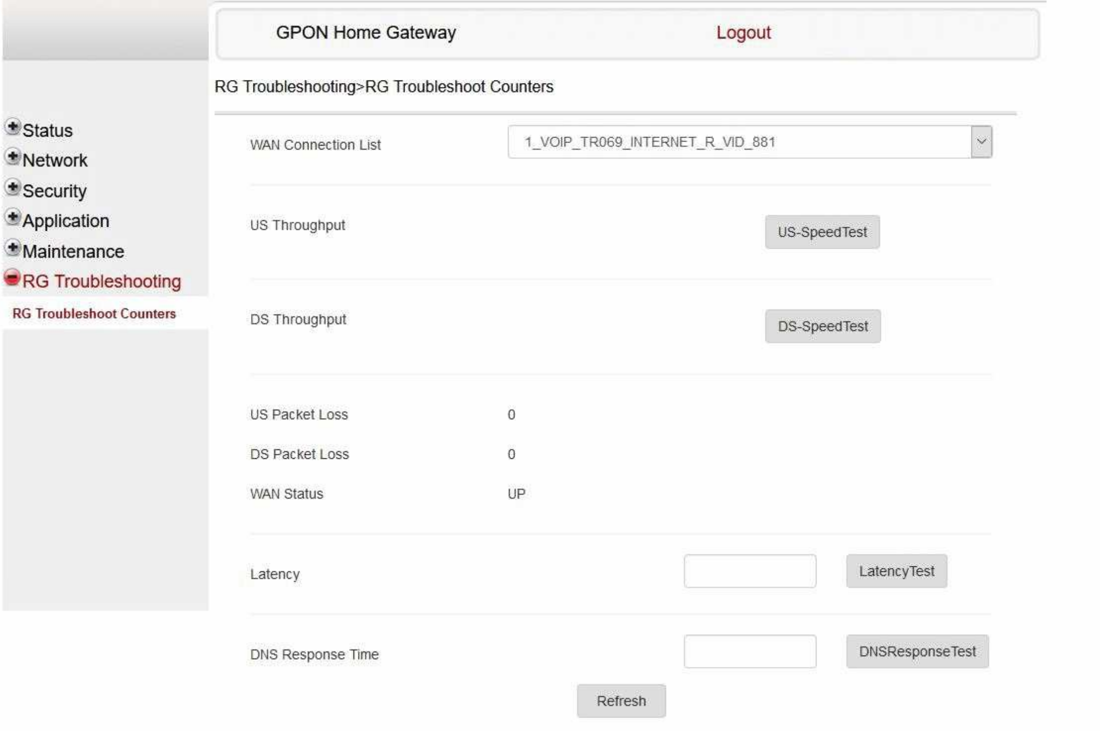
The Troubleshooting Counters feature enables service providers and end users to monitor the performance of their broadband connection.

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

1

Click **RG Troubleshooting→RG Troubleshoot Counters** from the left pane in the GPON Home Gateway page. The RG Troubleshoot Counters page displays.

Figure 8-65 RG Troubleshoot Counters page


GPON Home Gateway
Logout
Status
Network
Security
Application
Maintenance
RG Troubleshooting
RG Troubleshoot Counters
US-SpeedTest
DS-SpeedTest
LatencyTest
DNSResponseTest
Refresh

RG Troubleshooting>RG Troubleshoot Counters

WAN Connection List 1_VOIP_TR069_INTERNET_R_VID_881

US Throughput

DS Throughput

US Packet Loss 0

DS Packet Loss 0

WAN Status UP

Latency

DNS Response Time

2

Configure the following parameters:

Table 8-45 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.
DS Packet Loss	Indicates the number of downstream packages lost.

Table 8-45 RG Troubleshooting Counters parameters (continued)

Field	Description
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 display up-to-date information.

END OF STEPS

9 ONT configuration file over OMCI

9.1 Overview

9.1.1 Purpose

9.1.2 Contents

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9.2 Purpose	187
9.3 Supported configuration file types	187
9.4 ONT configuration file over OMCI	190

9.2 Purpose

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

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

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

9.3 Supported configuration file types

Table 9-1, “Supported configuration files” (p. 188) describes the configuration file types that are supported from Nokia ONT R05.02.00 and later.

Table 9-1 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.

Table 9-1 Supported configuration files (continued)

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

9.3.1 Filename conventions

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

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

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.

9.3.2 Download configuration file

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

Table 9-2 Download configuration files

ONT type	Legacy method download		Zero management download	
	PRE file	CFG file	PRE file	CFG file
Broadlight(eg.I240WA-3FE54869AFGA80)	—	✓	—	✓
Broadcom(eg.G240WB-3FE56773BFGA07)	—	✓	✓	✓

Table 9-2 Download configuration files (continued)

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

9.4 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.

9.4.1 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.

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

   Configure equipment interface **pland-cfgfile2=XMLXXXXXX2** and **dnload-cfgfile2 XMLXXXXXX2**

   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.

9.4.2 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 9.3 “Supported configuration file types” (p. 187).

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: **ABCXXXXVER** and **ABCXXXXVER**.tar.

c. Rename **ABCXXXXVER** to **ABCXXXXVER**.org

d. Remove the “.tar” extension from **ABCXXXXVER**.tar file.

2

Upload the ABCXXXXVER TAR file to the /ONT/ directory in the OLT.

A maximum of 250 files can be kept in the OLT file system.

3

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

For OLT commands, refer to the *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=XMLXXXXXX1** and **dnload-cfgfile1 XMLXXXXXX1**

   Configure equipment interface **pland-cfgfile2=XMLXXXXXX2** and **dnload-cfgfile2 XMLXXXXXX2**

   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.