

7368 Intelligent Services Access Manager ONT

G-2426G-A Product Guide

3FE-XXXXX-AAAA-TCZZA

Issue 1

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Contents

About this document	7
1 ETSI ONT safety guidelines	13
1.1 Safety instructions	13
1.2 Safety standards compliance	15
1.3 Electrical safety guidelines	15
1.4 ESD safety guidelines	16
1.5 Laser safety guidelines	16
1.6 Environmental requirements	20
2 ETSI environmental and CRoHS guidelines	21
2.1 Environmental labels	21
2.2 Hazardous Substances Table (HST)	23
2.3 Other environmental requirements	23
3 ANSI ONT safety guidelines	25
3.1 Safety instructions	25
3.2 Safety standards compliance	27
3.3 Laser safety guidelines	29
3.4 Electrical safety guidelines	32
3.5 ESD safety guidelines	33
3.6 Environmental requirements	33
4 G-2426G-A unit data sheet	35
4.1 Overview	35
4.2 G-2426G-A part numbers and identification	35
4.3 G-2426G-A general description	37
4.4 G-2426G-A software and installation feature support	43
4.5 G-2426G-A interfaces and interface capacity	43
4.6 G-2426G-A LEDs	45
4.7 G-2426G-A detailed specifications	47
4.8 G-2426G-A GEM ports and T-CONTs	48
4.9 G-2426G-A performance monitoring statistics	48
4.10 G-2426G-A functional blocks	50
4.11 G-2426G-A standards compliance	51
4.12 G-2426G-A special considerations	53

5	Install a G-2426G-A indoor ONT	55
5.1	Overview	55
5.2	Purpose	55
5.3	General	55
5.4	Prerequisites	55
5.5	Recommended tools	55
5.6	Safety information	56
5.7	Procedure	56
6	Replace a G-2426G-A indoor ONT	61
6.1	Overview	61
6.2	Purpose	61
6.3	General	61
6.4	Prerequisites	61
6.5	Recommended tools	61
6.6	Safety information	62
6.7	Procedure	62
7	Configure a G-2426G-A indoor ONT	67
7.1	Overview	67
	GUI configuration	70
7.2	General configuration	70
7.3	HGU mode GUI configuration	70
7.4	Log in to the web-based GUI	70
	Viewing device information and connection status	72
7.5	Overview	72
7.6	Viewing device information	72
7.7	Viewing LAN status	74
7.8	Viewing WAN status	76
7.9	Viewing WAN IPv6 status	78
7.10	Viewing home networking information	80
7.11	Viewing Optics module status	82
7.12	Viewing statistics	84
7.13	Viewing voice information	86
	Network configuration	89
7.14	Overview	89
7.15	Configuring LAN	89
7.16	Configuring LAN IPv6	92

7.17	Configuring WAN.....	93
7.18	Configuring WAN DHCP	95
7.19	Configuring Wireless 2.4GHz.....	97
7.20	Configuring Wireless 5GHz.....	100
7.21	Configuring wireless scheduling.....	103
7.22	Configuring IP routing	105
7.23	Configuring DNS	107
7.24	Configuring TR-069.....	109
7.25	Configuring GRE tunnel	110
7.26	Configuring Upstream (US) Classifier	112
7.27	Configuring QoS.....	119
	Security configuration	123
7.28	Overview	123
7.29	Configuring the firewall.....	123
7.30	Configuring the MAC filter	124
7.31	Configuring the IP filter.....	126
7.32	Configuring the URL filter	128
7.33	Configuring parental control	129
7.34	Configuring DMZ and ALG	131
7.35	Configuring access control.....	133
	Configuring the Application	136
7.36	Overview	136
7.37	Configuring port forwarding.....	136
7.38	Configuring port triggering.....	138
7.39	Configuring DDNS.....	140
7.40	Configuring NTP	142
7.41	Configuring USB	143
7.42	Configuring UPnP and DLNA	145
7.43	Configuring voice	146
	Maintenance	149
7.44	Overview	149
7.45	Configuring the password	149
7.46	WAN speed test	151
7.47	Speed test history	152
7.48	Configuring LOID	154
7.49	Configuring SLID.....	155
7.50	Managing the device	156

7.51	Backing up the configuration	158
7.52	Restoring the configuration	159
7.53	Upgrading firmware	160
7.54	Rebooting the device	161
7.55	Resetting to factory defaults.....	162
7.56	Diagnosing WAN connections.....	163
7.57	Viewing log files	164
	RG Troubleshooting Counters	167
7.58	Overview	167
7.59	Viewing Residential Gateway (RG) troubleshooting counters.....	167
8	ONT configuration file over OMCI	171
8.1	Overview	171
8.2	Purpose	171
8.3	Supported configuration file types	171
8.4	ONT configuration file over OMCI	174

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 _____

To access individual documents

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

-
- 1

Navigate to <http://customer.nokia.com/s/> and enter your user name and password. If you are a new user and require access to this service, please contact your Nokia sales representative.
 - 2

Select **Products**.
 - 3

Type your product name in the **Find and select a product** field and click the search icon. Select a product.
 - 4

Click **Documentation: Doc Center** to go to the product page in the Doc Center.
 - 5

Select a release from the **Release** list and click **SEARCH**.
 - 6

Click on the PDF icon to open or save the file.

END OF STEPS

Procedures with options or substeps

When there are options in a procedure, they are identified by letters. When there are required substeps in a procedure, they are identified by roman numerals.

Example of options in a procedure

At [Step 1](#), you can choose option a or b. At [Step 2](#), you must do what the step indicates.

- 1

This step offers two options. You must choose one of the following:
 - a. This is one option.
 - b. This is another option.
- 2

You must perform this step.

END OF STEPS

Example of required substeps in a procedure

At [Step 1](#), you must perform a series of substeps within a step. At [Step 2](#), you must do what the step indicates.

-
- 1

This step has a series of substeps that you must perform to complete the step. You must perform the following substeps:
 - a. This is the first substep.
 - b. This is the second substep.
 - c. This is the third substep.
 - 2

You must perform this step.

END OF STEPS

Multiple PDF document search

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

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

To search multiple PDF files for a common term

- 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 \(https://customer.nokia.com/support/s/\)](https://customer.nokia.com/support/s/).

For ordering information, contact your Nokia sales representative.

How to comment

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

1 ETSI ONT safety guidelines

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

1.1 Safety instructions

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

1.1.1 Safety instruction boxes

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

The following is an example of the Danger box.



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.

1.1.2 Safety-related labels

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

Table 1-1, “Safety labels” (p. 13) provides sample safety labels on the ONT equipment.

Table 1-1 Safety 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 and compliant with Japan VCCI emissions standards.

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

Figure 1-1 PSE certification

 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.
	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、混信が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、取扱説明書に従ってください。

19841

1.2 Safety standards compliance

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

1.2.1 EMC, EMI, and ESD compliance

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

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

1.2.2 Equipment safety standard compliance

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

1.2.3 Environmental standard compliance

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

1.2.4 Laser product standard compliance

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

1.2.5 Resistibility requirements compliance

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

1.2.6 Acoustic noise emission standard compliance

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

1.3 Electrical safety guidelines

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

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

The ONTs comply with BS EN 61140.

1.3.1 Power supplies

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

1.3.2 Cabling

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

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

1.3.3 Protective earth

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

1.4 ESD safety guidelines

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



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.

1.5 Laser safety guidelines

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

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



DANGER

Hazard

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

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



DANGER

Hazard

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

1.5.1 Laser classification

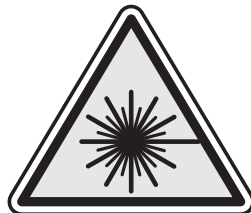
The ONT is classified as a Class 1 laser product based on its transmit optical output.

Laser warning labels

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

[Figure 1-2, “Laser product label” \(p. 16\)](#) shows a laser product label.

Figure 1-2 Laser product label



18455

[Figure 1-3, “Laser classification label” \(p. 18\)](#) shows a laser classification label. Laser classification labels may be provided in other languages.

Figure 1-3 Laser classification label

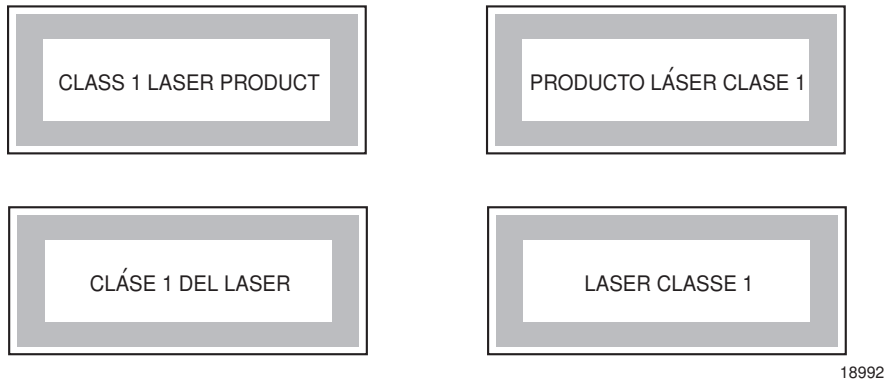
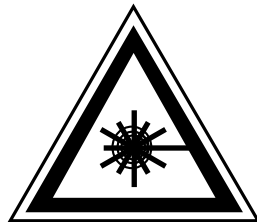


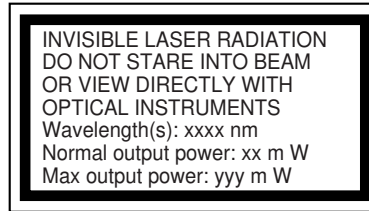
Figure 1-4, “Laser warning labels” (p. 19) shows a laser warning label and an explanatory label for laser products. Labels and warning may be provided in other languages. The explanatory label provides the following information:

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

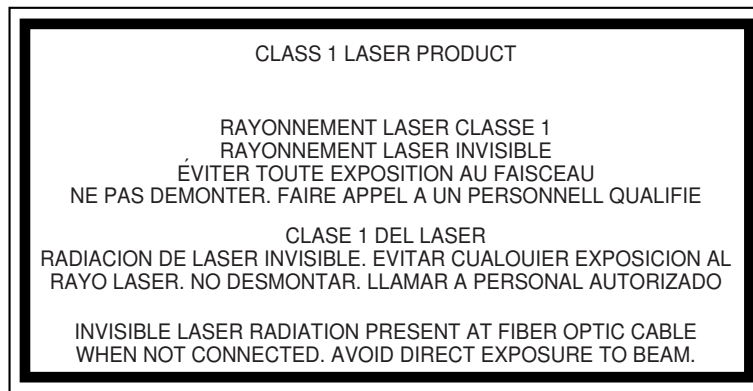
Figure 1-4 Laser warning labels



Laser Warning Label



Laser Warning Label



Laser Warning Label

18993

1.5.2 Transmit optical output

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

1.5.3 Normal laser operation

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

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



DANGER

Hazard

Risk of eye damage by laser radiation.

1.5.4 Location class

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

1.6 Environmental requirements

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

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

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

2 ETSI environmental and CRoHS guidelines

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

2.1 Environmental labels

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

2.1.1 Overview

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

2.1.2 Environmental related labels

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

Products below Maximum Concentration Value (MCV) label

[Figure 2-1, "Products below MCV value label" \(p. 22\)](#) shows the label that indicates a product is below the maximum concentration value, as defined by standard SJ/T11363-2006 (Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products). Products with this label are recyclable. The label may be found in this documentation or on the product.

Figure 2-1 Products below MCV value label



18986

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

Figure 2-2, “Products above MCV value label” (p. 22) shows the label that indicates a product is above the maximum concentration value, as defined by standard SJ/T11363-2006 (Requirements for Concentration Limits for Certain Hazardous Substances in Electronic Information Products). The number contained inside the label indicates the Environment-Friendly User Period (EFUP) value. The label may be found in this documentation or on the product.

Figure 2-2 Products above MCV value label



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

environments, and physical condition of infrastructure and handsets after years of service. The values reflect minimum values and refer to products operated according to the intended use conditions. See 2.2 “Hazardous Substances Table (HST)” (p. 22) for more information.

2.2 Hazardous Substances Table (HST)

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

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

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

2.3 Other environmental requirements

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

2.3.1 ONT environmental requirements

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

2.3.2 Storage

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

2.3.3 Transportation

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

2.3.4 Stationary use

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

2.3.5 Material content compliance

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

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

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

2.3.6 End-of-life collection and treatment

Electronic products bearing or referencing the symbol shown in [Figure 2-3, “Recycling/take back/disposal of product symbol”](#) (p. 23), when put on the market within the European Union (EU), shall be collected and treated at the end of their useful life, in compliance with applicable EU and local legislation. They shall not be disposed of as part of unsorted municipal waste. Due to materials that may be contained in the product, such as heavy metals or batteries, the environment and human health may be negatively impacted as a result of inappropriate disposal.

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

Figure 2-3 Recycling/take back/disposal of product symbol



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

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

In compliance with legal requirements and contractual agreements, where applicable, Nokia will offer to provide for the collection and treatment of Nokia products bearing the logo shown in [Figure 2-3, “Recycling/take back/disposal of product symbol”](#) (p. 24) at the end of their useful life, or products displaced by Nokia equipment offers. For information regarding take-back of equipment by Nokia, or for more information regarding the requirements for recycling/disposal of product, contact your Nokia account manager or Nokia take back support at sustainability.global@nokia.com.

3 ANSI ONT safety guidelines

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

3.1 Safety instructions

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

3.1.1 Safety instruction boxes in customer documentation

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

The following is an example of the Danger box.



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.

3.1.2 Safety-related labels

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

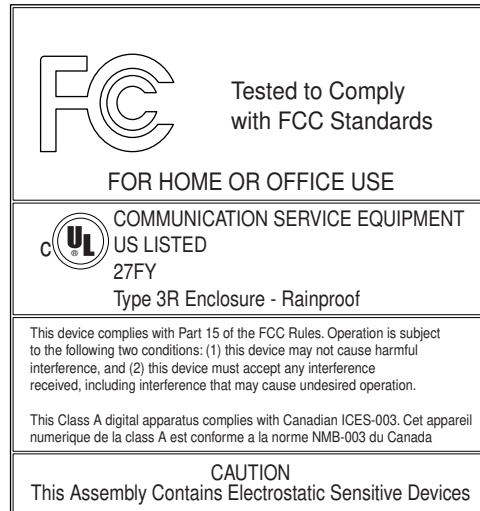
[Table 3-1, "Safety labels" \(p. 25\)](#) provides examples of the text in the various ONT safety labels.

Table 3-1 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 3-1, “Sample safety label on the ONT equipment” (p. 26) shows a sample safety label on the ONT equipment.

Figure 3-1 Sample safety label on the ONT equipment



18533

3.2 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.

3.2.1 EMC, EMI, and ESD standards compliance

The ONT equipment complies with the following requirements:

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

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

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

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

3.2.2 Equipment safety standard compliance

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

3.2.3 Environmental standards compliance

The ONT equipment complies with the following standards:

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

3.2.4 Laser product standards compliance

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

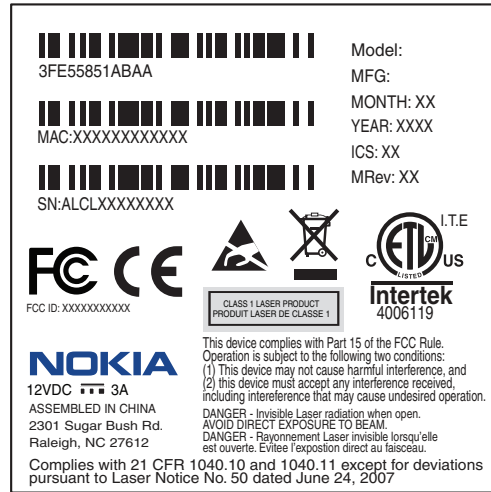
Per CDRH 21 CFR 10.40.10 (h) (1) (iv) distributors of Class 1 laser products, such as Nokia ONTs shall leave the following Laser Safety cautions with the end user.

a) “Class 1 Laser Product”

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

[Figure 3-2, “Sample laser product label showing CDRH 21 CFR compliance” \(p. 29\)](#) shows a laser product label.

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



18532

3.2.5 Resistibility requirements compliance

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

3.3 Laser safety guidelines

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

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



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

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



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

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

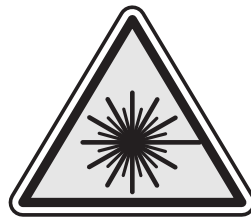
- a) “Class 1 Laser Product”
- b) “Caution – Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.”

3.3.1 Laser warning labels

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

Figure 3-3, “Laser product label” (p. 29) shows a laser product label.

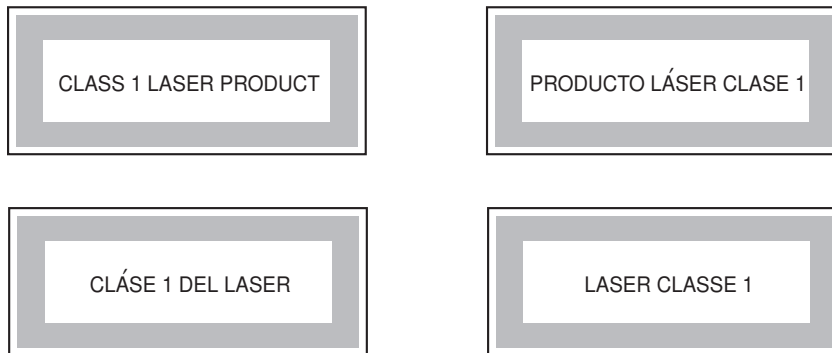
Figure 3-3 Laser product label



18455

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

Figure 3-4 Laser classification label



18992

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

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

- wavelength
- normal output power
- maximum output power

Figure 3-5 Laser warning labels



18993

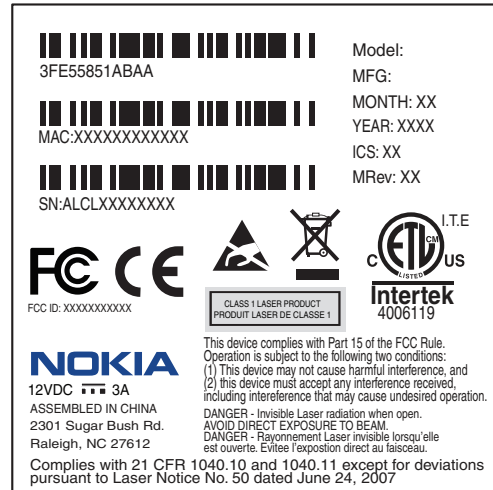
3.3.2 Laser classification

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

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

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

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



18532

3.3.3 Transmit optical output

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

3.3.4 Normal laser operation

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

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



DANGER

Hazard

Risk of eye damage by laser radiation.

3.3.5 Location class

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

3.4 Electrical safety guidelines

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



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

3.4.1 Power supplies

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

3.4.2 Cabling

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

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

3.4.3 Protective earth

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

3.5 ESD safety guidelines

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



CAUTION

Service Disruption

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

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

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

3.6 Environmental requirements

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

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

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

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

4 G-2426G-A unit data sheet

4.1 Overview

4.1.1 Purpose

4.1.2 Contents

4.1 Overview	35
4.2 G-2426G-A part numbers and identification	35
4.3 G-2426G-A general description	37
4.4 G-2426G-A software and installation feature support	43
4.5 G-2426G-A interfaces and interface capacity	43
4.6 G-2426G-A LEDs	45
4.7 G-2426G-A detailed specifications	47
4.8 G-2426G-A GEM ports and T-CONTs	48
4.9 G-2426G-A performance monitoring statistics	48
4.10 G-2426G-A functional blocks	50
4.11 G-2426G-A standards compliance	51
4.12 G-2426G-A special considerations	53

4.2 G-2426G-A part numbers and identification

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

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

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

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

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

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

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

Dimension	Specification
Packet size supported	2000
number of IP addresses supported (or ranges)	254
number of supported Wi-Fi clients (per radio, per device, per mesh)	64 per radio, 128 per device, no mesh support.
number of supported beacons /APs in a mesh	—
number of supported WAN interfaces	8
number of supported VLANs	4094
number of Tconts and GEM ports in the ONTs	32 Tconts / 256 GEM ports
number of LLIDs in the ONTs	—
number of priority queues, overall buffer size	128, Max 16MB for WAN and 4MB for LAN
	
number of multicast groups (DAACL entries)	1024

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

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

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

4.3 G-2426G-A general description

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

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

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

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

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

- Dual-band concurrent 2x2 IEEE 802.11b/g/n 2.4 GHz and 802.11ac MIMO 5 GHz
- Supports 802.11 b/g/n 2x2 Wireless 2.4 GHz MIMO; Channel bandwidth 20, 40 MHz, auto
- Supports 802.11ac 2x2 Wireless 5 GHz Mu-MIMO; Channel bandwidth 20, 40, 80 MHz, auto
- Four Gigabit standard RJ-45 10/100/1000 Mbps, auto negotiating Ethernet ports and MDI/MDIX auto sensing
- Two POTS ports with R-J11 connectors
- Two USB 2.0 Type A ports

Note:

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

- GPON uplink: G.984 and G.988 series standard compliant
- 256MB NAND Flash with bad block management, 512MB DDR3 RAM, pin2pin compatible design for possible upgrade of RAM/Flash
- WLAN on/off push button
- WPS on/off push button
- LEDs on/off push button
- Reset button
- Triple-Play services, including voice, video and high speed Internet access
- Support for fax services
- Built-in layer 2 switch; Line Rate L2 traffic
- IP video distribution
- Wavelength: 1490 nm downstream; 1310 nm upstream
- Supports WBF filter. The GPON ONTs can co-exist with XGSPON ONTs in the same PON
- PHY rate: 300 Mbps for 2.4 G and 867 Mbps for 5 G
- External antennas with 5dBi gain for each
- Optics that support received signal strength indication (RSSI)
- 64/128 WEP encryption
- WPA, WPA-PSK/TKIP
- WPA2, WPA2-PSK/AES
- VLAN tagging/detagging and marking/remarking of IEEE 802.1p per Ethernet port.
- Dying gasp support
- Voice Services via Session Initiation Protocol (SIP)
- Multiple voice Code
- DTMF dialing
- Echo cancellation (G.168)
- Fax mode configuration (T.30/T.38)
- Caller ID, call waiting, call hold, 3-way calling, call transfer, message waiting

- Forward Error Correction (FEC)
- support for multiple SSIDs (private and public instances); contact your Nokia representative for further details.
- Conductive power: 250mW/24 dBm (2.4 GHz); 500 mW/27 dBm (5GHz)
- Maximum effective isotropic radiated power (EIRP):
 - 5dBi external antenna: 800mW/29dBm (2.4GHz);1600mW/32dBm (5GHz)
 - 3dBi internal antenna: 500mW/27dBm (2.4GHz);1000mW/30dBm (5GHz)
- Bridged mode or routed mode per LAN port
- TR-069 support
- Ethernet-based Point-to-Point (PPPoE)
- DHCP client/server
- DNS server/client
- DDNS
- Port forwarding
- Network Address Translation (NAT)
- Network Address Port Translation (NAPT)
- UPnP IGD2.0 support
- ALG
- IGMP snooping and proxy (v2/v3)
- Traffic classification and QoS capability
- OMCI/TR-069 Web GUI configuration
- Performance monitoring and alarm reporting
- Remote software image downloading and activation
- IP/MAC/URL filter
- Multi-level firewall and ACL
- Econet ONT in mainstream

4.3.1 TR-069 parameter support

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

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

Host object support

The ONT provides host object support for: InternetGatewayDevice.LANDevice.Hosts.Host.

Port forwarding support

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

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

These are the same port forwarding parameters supported in the GUI. For more information, see [Table 7-32, “Port Forwarding parameters” \(p. 137\)](#) in [Chapter 7, “Configure a G-2426G-A indoor ONT”](#).

Optical parameters support

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

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

These are the same optical parameters supported in the GUI. For more information, see [Table 7-6, “Optics Module Status parameters” \(p. 83\)](#) in [Chapter 7, “Configure a G-2426G-A indoor ONT”](#).

Object support for WiFi parameters

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

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

These are the same TR-069 object parameters that are supported in the GUI. For more information, see [Table 7-13, “Wireless \(2.4GHz\) parameters” \(p. 99\)](#) and [Table 7-14, “Wireless \(5GHz\) parameters” \(p. 102\)](#) in [Chapter 7, “Configure a G-2426G-A indoor ONT”](#).

Statistics and troubleshooting support

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

Diagnostic parameter support

The ONT supports the following TR-069 diagnostic parameters:

- TR-143
- IP ping
- traceroute

These are the same diagnostic parameters supported in the GUI. For more information, see [7.56 “Diagnosing WAN connections” \(p. 163\)](#) in [Chapter 7, “Configure a G-2426G-A indoor ONT”](#).

4.3.2 TR69 authentication using TLS and CA certificates

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

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

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

4.3.3 TR-104 parameter extension support for voice service

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

The TR-104 Voice Service Object is:

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

The vendor specific attribute is: X_ALU-COM_XML_File_Name_Path.

4.3.4 TR-104 voice-related alarms

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

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

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

4.3.5 TR-104 parameters for FX line testing

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

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

- ringers test

4.3.6 TR-111 support

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

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

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

4.3.7 TR-157 support

The ONT can support LXC container for third party software component. These software components are managed by ACS with the parameters defined in TR-157.

The TR-157 objects are:

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

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

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

- [Chapter 5, "Install a G-2426G-A indoor ONT"](#)
- [Chapter 6, "Replace a G-2426G-A indoor ONT"](#)

For information on the following topics, see the **7368 ISAM ONT Product Overview Guide**:

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

4.5 G-2426G-A interfaces and interface capacity

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

Table 4-4 G-2426G-A indoor ONT interface connection capacity

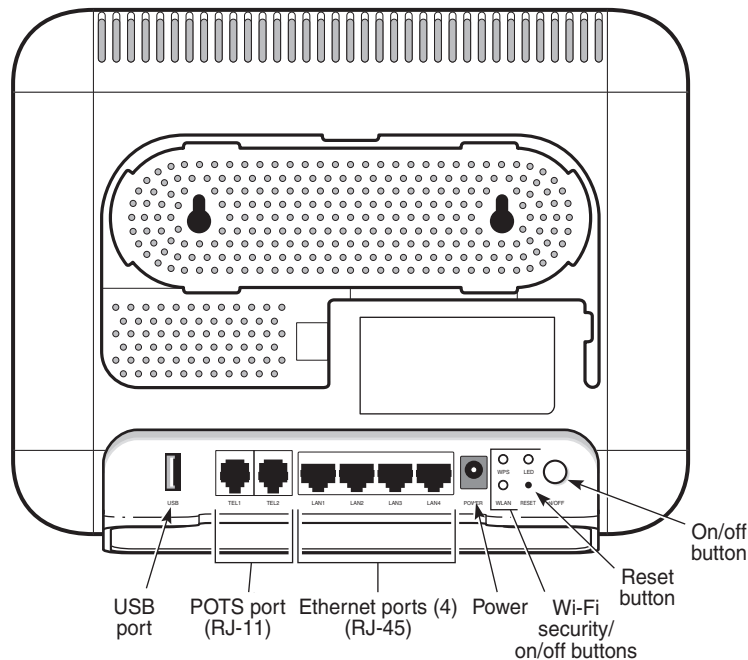
ONT type and model	Maximum capacity								
	POTS	10/ 100 BASE-T	10/ 100/ 1000 BASE-T	RF video (CATV)	MoCA	VDSL2	E1/T1	Local craft	GPON SC/APC
G-2426G-A ¹	2	—	4	—	—	—	—	—	1

Notes:

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

4.5.1 G-2426G-A connections and components

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



36176

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

Table 4-5 G-2426G-A indoor ONT physical connections

Connection ¹	Print Letters	Description
POTS port	TEL1 and TEL2	This connection is provided through an RJ-11 port. One POTS connection is supported. The POTS port supports voice services.
Ethernet ports	LAN1 to LAN4	This connection is provided through Ethernet RJ-45 connectors. Up to four 10/100/1000 Base-T Ethernet interfaces are supported. The Ethernet ports can support both data and in-band video services on all four interfaces.
Power input	POWER	This connection is provided through the power connector. A power cable fitted with a barrel connector is used to make the connection.
Reset button	RESET	Pressing the Reset button for less than 10 seconds reboots the ONT; pressing the Reset button for 10 seconds resets the ONT to the factory defaults, except for the LOID and SLID. Accessible through a 2mm pin hole.
WLAN button	WLAN	Wi-Fi service is compliant with IEEE 802.11 standards and is enabled and disabled using the WLAN button.
WPS button	WPS	The Wi-Fi Protected Setup (WPS) button enables and disables the WPS for 2.4GHz and 5GHz.
LED button	LED	The LED button turns the LED indicators on or off.
On/Off button	ON/OFF	This button turns the ONT on or off.
USB port	USB	This connection is provided through 1 USB port on the side of the ONT. The ONT supports external USB hard drives that can be made accessible to all LAN devices.
Fiber optic port	-	The SC/APC fiber optic port is located at the back of the ONT and provides the connection for the fiber optic cable.

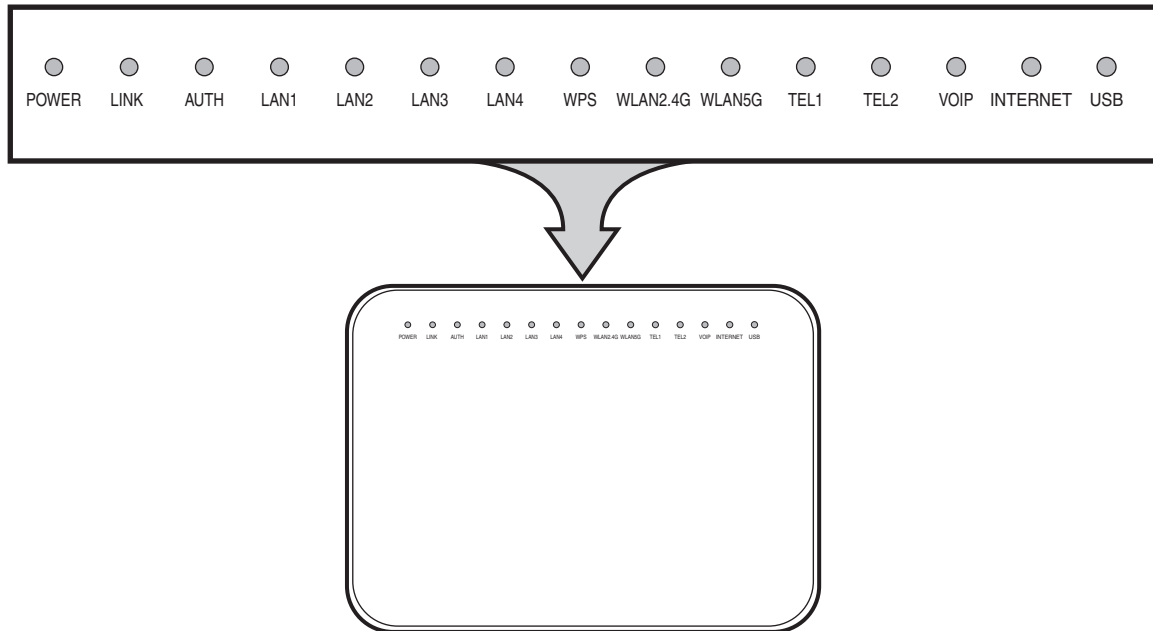
Notes:

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

4.6 G-2426G-A LEDs

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

Figure 4-2 G-2426G-A indoor ONT LEDs



36235

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

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

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

Table 4-6 G-2426G-A indoor ONT LED descriptions (continued)

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

4.7 G-2426G-A detailed specifications

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

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

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

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

Table 4-8 G-2426G-A indoor ONT power consumption specifications

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

Notes:

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

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

Table 4-9 G-2426G-A indoor ONT environmental specifications

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

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

Table 4-10, “G-2426G-A indoor ONT capacity for GEM ports and T-CONTs” (p. 48) lists the maximum number of supported T-CONTs and GEM ports. See the appropriate release Customer Release Notes for the most accurate list of supported devices.

Table 4-10 G-2426G-A indoor ONT capacity for GEM ports and T-CONTs

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

4.9 G-2426G-A performance monitoring statistics

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

- [Table 4-11, “Package S ONTs ONTENET performance monitoring statistics” \(p. 48\)](#) provides statistics for ONTENET type counters
- [Table 4-12, “Package S ONTs ONTL2UNI performance monitoring statistics” \(p. 49\)](#) provides statistics for ONTL2UNI type counters
- [Table 4-13, “Package S ONTs PONONTTC, PONONTMCTC, PONONTTCHSI, PONONTTCES, PONONTTCFLOW, PONONTTCVOIP performance monitoring statistics” \(p. 50\)](#) provides statistics for PONONTTC, PONONTMCTC, PONONTTCHSI, PONONTTCES, PONONTTCFLOW, and PONONTTCVOIP type counters
- [Table 4-14, “Package S ONTs PONONTTC aggregate performance monitoring statistics” \(p. 50\)](#) provides statistics for PONONTTC aggregate type counters

i **Note:** If you have trouble accessing G-2426G-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 4-11 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-2426G-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 4-12 Package S ONTs ONTL2UNI performance monitoring statistics

ONT	ONTL2UNI statistics										
	FRAMES	BYTES	MCFRAMES	DSDRPFRRMS	USDRPFRRMS	USFRAMES	DSFRAMES	USBYTES	DSBYTES	USMCFRAMES	DSMCFRAMES
G-2426G-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 4-13 Package S ONTs PONONTTC, PONONTMCTC, PONONTTCHSI, PONONTTCES, PONONTTCFLOW, PONONTTCVOIP performance monitoring statistics

ONT	PONONTTC, PONONTMCTC, PONONTTCHSI, PONONTTCES, PONONTTCFLOW, PONONTTCVOIP statistics					
	TXBLOCKS	TXFRAGS	RXBLOCKS	RXFRAGS	LOSTFRAGS	BADGEMHDRS
G-2426G-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 4-14 Package S ONTs PONONTTC aggregate performance monitoring statistics

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

Notes:

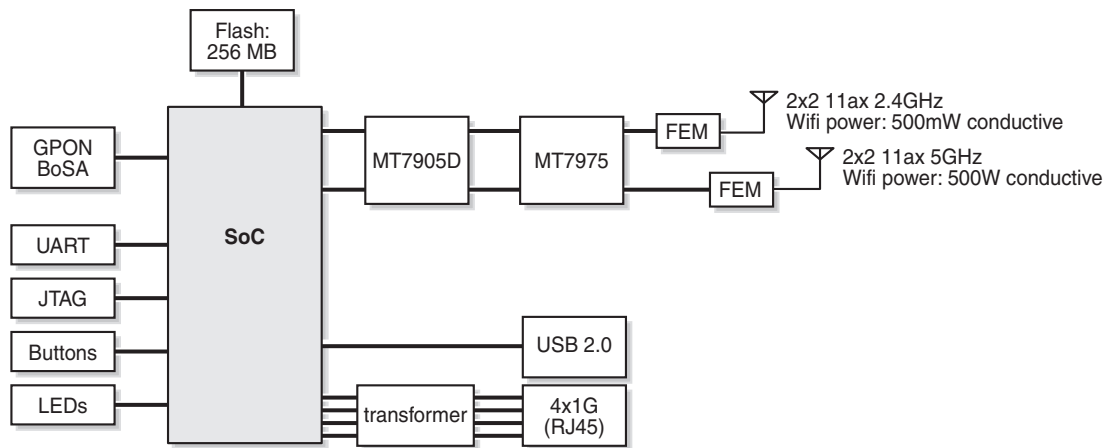
1. A 5 second polling window limitation exists on the ONT, therefore the margin of error for each 15-min window is 5 seconds

4.10 G-2426G-A functional blocks

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

[Figure 4-3, “G-2426G-A ONT functional block” \(p. 51\)](#) shows the functional blocks for G-2426G-A indoor ONT.

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



36173

4.11 G-2426G-A standards compliance

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

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

4.11.1 Energy-related products standby and off modes compliance

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

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

For information about the type and number of network ports, see [4.5 “G-2426G-A interfaces and interface capacity” \(p. 43\)](#) in this chapter.

For information about power consumption, see [4.7 “G-2426G-A detailed specifications” \(p. 47\)](#) in this chapter.

4.11.2 FCC statement

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

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

4.11.3 FCC Radiation Exposure Statement

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

4.12 G-2426G-A special considerations

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

4.12.1 Wi-Fi service

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

Wi-Fi physical features

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

- 1 WLAN button for enabling and disabling Wi-Fi service
- 1 Wi-Fi Protected Setup (WPS) push button for adding WPS-enabled wireless devices
- 4 internal antennas: 2 for 2.4G and 2 for 5G

Wi-Fi standards and certifications

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

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

Wi-Fi GUI features

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

4.12.2 G-2426G-A ONT considerations and limitations

[Table 4-15, “G-2426G-A ONT considerations and limitations” \(p. 54\)](#) lists the considerations and limitations for Package P G-2426G-A ONTs.

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

Considerations and limitations
Call History Data collection (ONTCALLHST) is supported, except for the following parameters: RTP packets (discarded), far-end RTCP and RTCP-XR participation, RTCP average and peak round trip delay, MOS, average jitter, number of jitter-buffer over-runs and under runs.
Some voice features are configurable on a per ONT basis, including Call Waiting, Call Hold, 3-Way Calling, and Call Transfer.
The following voice features / GSIP parameters are configurable on a per-Client/ per-ONT basis (not per-Subscriber): • Enable Caller ID and Enable Caller Name ID • Digitmap and the associated Interdigit and Critical timers and Enter key parameters • Warmline timer is enabled per subscriber, but the warmline timer value is configured per ONT and must have a lower value than the Permanent time • Miscellaneous timers: Permanent, Timed-release, Reanswer, Error-tone, and CW-alert timers • Features / functions: Message waiting mode, WMWI refresh interval, DTMF volume level • Service Codes for the following features: CW, Call Hold and Warmline

5 Install a G-2426G-A indoor ONT

5.1 Overview

5.1.1 Purpose

5.1.2 Contents

5.1 Overview	55
5.2 Purpose	55
5.3 General	55
5.4 Prerequisites	55
5.5 Recommended tools	55
5.6 Safety information	56
5.7 Procedure	56

5.2 Purpose

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

5.3 General

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

5.4 Prerequisites

You need the following items before beginning the installation:

- all required cables

5.5 Recommended tools

You need the following tools for the installation:

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

- drill and drill bits
- paper clip

5.6 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 4, “G-2426G-A unit data sheet”](#) for the temperature ranges of these ONTs.

5.7 Procedure

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

1

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



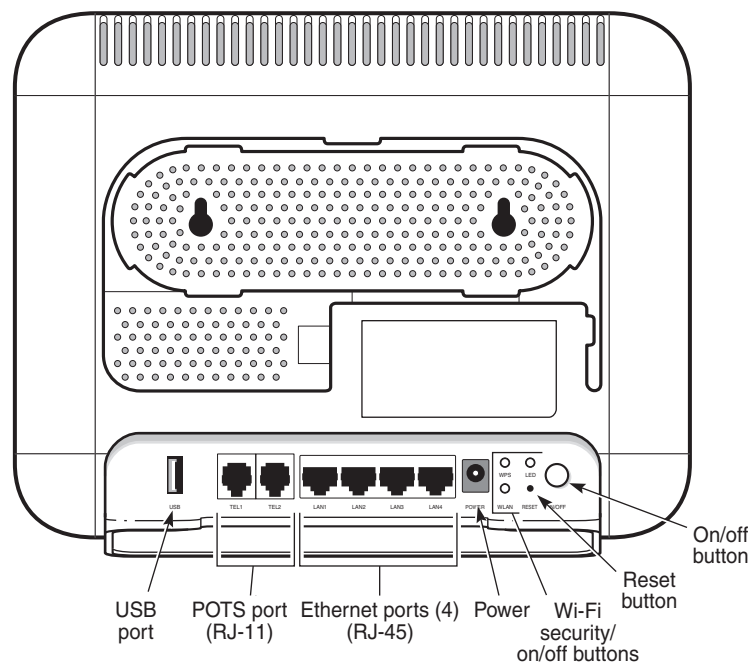
Note: The G-2426G-A cannot be stacked with another ONT or with other equipment. The ONT mounting requirements are:

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

2

Review the connection locations, as shown in [Figure 5-1, “G-2426G-A ONT connections”](#) (p. 56).

Figure 5-1 G-2426G-A ONT connections



36176

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 5-1, “G-2426G-A ONT connections” \(p. 57\)](#) for location of the WLAN button.
- b. Press the WLAN button to change the status of the Wi-Fi service.

9

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

10

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

11

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

12

If necessary, reset the ONT.

- a. Locate the Reset button on a G-2426G-A indoor ONT as shown in [Figure 5-1, “G-2426G-A ONT connections” \(p. 57\)](#).
- b. Insert the end of a straightened paper clip or other narrow object into the hole in the Reset button to reset the ONT.

END OF STEPS

6 Replace a G-2426G-A indoor ONT

6.1 Overview

6.1.1 Purpose

6.1.2 Contents

6.1 Overview	61
6.2 Purpose	61
6.3 General	61
6.4 Prerequisites	61
6.5 Recommended tools	61
6.6 Safety information	62
6.7 Procedure	62

6.2 Purpose

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

6.3 General

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

6.4 Prerequisites

You need the following items before beginning the installation:

- all required cables

6.5 Recommended tools



You need the following tools for replacing the ONT:

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

- drill and drill bits

6.6 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 4, "G-2426G-A unit data sheet"](#) for the temperature ranges of these ONTs.

6.7 Procedure

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

1

Deactivate the ONT services at the P-OLT.

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

- a. Use the RTRV-ONT command to verify the ONT status and the 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.

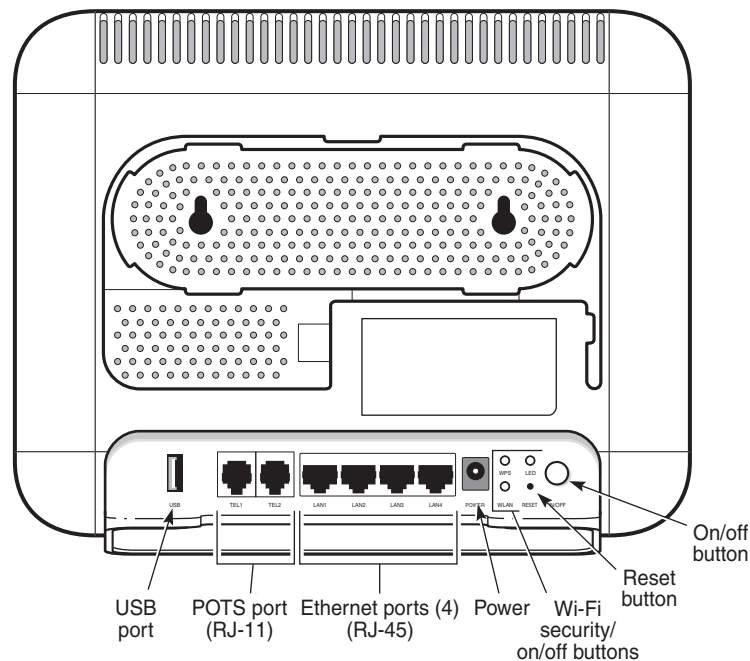
Example:

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

2

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

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



36176

3

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

4

Disconnect the POTS, Ethernet, and power cables from the ONT; see [Figure 6-1, “G-2426G-A indoor ONT connections”](#) (p. 63) for the connector locations on the G-2426G-A indoor ONT.

5

**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 6-1, “G-2426G-A indoor ONT connections”](#) (p. 63) for the location of the RJ-45 ports.

8

Connect the POTS cable directly to the RJ-11 port as per local practices; see [Figure 6-1, “G-2426G-A indoor ONT connections”](#) (p. 63) for the location of the RJ-11 ports.

9

**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 **7368 ISAM 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 6-1, “G-2426G-A indoor ONT connections” \(p. 63\)](#) for the location of the WLAN button.

14

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



Note: A new SLID or the old SLID may be used with the replacement ONT.

If a new SLID is used, the new SLID must also be programmed at the P-OLT using TL1 or a network manager.

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

15

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

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

17 _____
If necessary, reset the ONT.

- a. Locate the Reset button on a G-2426G-A indoor ONT as shown in [Figure 6-1, “G-2426G-A indoor ONT connections” \(p. 63\)](#).
- b. Insert the end of a straightened paper clip or other narrow object into the hole in the Reset button to reset the ONT.

END OF STEPS _____

7 Configure a G-2426G-A indoor ONT

7.1 Overview

7.1.1 Purpose

7.1.2 Contents

7.1 Overview	67
GUI configuration	70
7.2 General configuration	70
7.3 HGU mode GUI configuration	70
7.4 Log in to the web-based GUI	70
Viewing device information and connection status	72
7.5 Overview	72
7.6 Viewing device information	72
7.7 Viewing LAN status	74
7.8 Viewing WAN status	76
7.9 Viewing WAN IPv6 status	78
7.10 Viewing home networking information	80
7.11 Viewing Optics module status	82
7.12 Viewing statistics	84
7.13 Viewing voice information	86
Network configuration	89
7.14 Overview	89
7.15 Configuring LAN	89
7.16 Configuring LAN IPv6	92
7.17 Configuring WAN	93
7.18 Configuring WAN DHCP	95
7.19 Configuring Wireless 2.4GHz	97
7.20 Configuring Wireless 5GHz	100
7.21 Configuring wireless scheduling	103

7.22 Configuring IP routing	105
7.23 Configuring DNS	107
7.24 Configuring TR-069	109
7.25 Configuring GRE tunnel	110
7.26 Configuring Upstream (US) Classifier	112
7.27 Configuring QoS	119
Security configuration	123
7.28 Overview	123
7.29 Configuring the firewall	123
7.30 Configuring the MAC filter	124
7.31 Configuring the IP filter	126
7.32 Configuring the URL filter	128
7.33 Configuring parental control	129
7.34 Configuring DMZ and ALG	131
7.35 Configuring access control	133
Configuring the Application	136
7.36 Overview	136
7.37 Configuring port forwarding	136
7.38 Configuring port triggering	138
7.39 Configuring DDNS	140
7.40 Configuring NTP	142
7.41 Configuring USB	143
7.42 Configuring UPnP and DLNA	145
7.43 Configuring voice	146
Maintenance	149
7.44 Overview	149
7.45 Configuring the password	149
7.46 WAN speed test	151
7.47 Speed test history	152
7.48 Configuring LOID	154
7.49 Configuring SLID	155

7.50 Managing the device	156
7.51 Backing up the configuration	158
7.52 Restoring the configuration	159
7.53 Upgrading firmware	160
7.54 Rebooting the device	161
7.55 Resetting to factory defaults	162
7.56 Diagnosing WAN connections	163
7.57 Viewing log files	164
RG Troubleshooting Counters	167
7.58 Overview	167
7.59 Viewing Residential Gateway (RG) troubleshooting counters	167

GUI configuration

7.2 General configuration

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

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

7.3 HGU mode GUI configuration

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

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

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

7.4 Log in to the web-based GUI

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

1

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

The Login page displays.

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

2



CAUTION

Service Disruption

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

Enter your username and password in the Login page.

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

Figure 7-1 Web login page

The image shows a web login page for a GPON Home Gateway. The page has a teal header with the text "GPON Home Gateway". Below the header is a white rectangular area containing two input fields. The first field is labeled "Username" and the second is labeled "Password". Below these fields are two buttons: "Login" and "Reset". The "Login" button is on the left and the "Reset" button is on the right. Both buttons have a light blue background and a dark blue border.

i **Note:** If you forget the current username and password, press the reset button for 5 seconds and the default values for the username and password will be recovered at startup.

3

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

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

END OF STEPS

Viewing device information and connection status

7.5 Overview

7.5.1 Purpose

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

7.5.2 Contents

7.5 Overview	72
7.6 Viewing device information	72
7.7 Viewing LAN status	74
7.8 Viewing WAN status	76
7.9 Viewing WAN IPv6 status	78
7.10 Viewing home networking information	80
7.11 Viewing Optics module status	82
7.12 Viewing statistics	84
7.13 Viewing voice information	86

7.6 Viewing device information

1

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

Figure 7-2 Device Information page

GPON Home Gateway

Logout

Status>Device Information

Status

Device Information

LAN Status

WAN Status

WAN Status IPv6

Home Networking

Optics Module Status

Statistics

Voice Information

Network

Security

Application

Maintenance

RG Troubleshooting

Device Name

G-2426G-A

Vendor

Nokia

Serial Number

ALCLB39D3FB9

Hardware Version

3FE48299BAAA

Boot Version

U-Boot Dec-31-2016--12:00:00

Software Version

3FE49226HJHK66

Chipset

MTK7528

Device Running Time

3 days 0 hours 35 minutes 38 seconds

Refresh



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

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

Table 7-1 Device Information parameters

Field	Description
Device Name	Name on the ONT
Vendor	Name of the vendor
Serial Number	Serial number of the ONT
Hardware version	Hardware version of the ONT
Boot version	Boot version of the ONT
Software version	Software version of the ONT
Chipset	Chipset of the ONT

Table 7-1 Device Information parameters (continued)

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

2

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

END OF STEPS

7.7 Viewing LAN status

1

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

Figure 7-3 LAN Status page

GPON Home Gateway

Logout

Status > LAN Status

Status

Device Information

LAN Status

WAN Status

WAN Status IPv6

Home Networking

Optics Module Status

Statistics

Voice Information

Network

Security

Application

Maintenance

RG Troubleshooting

Wireless Information

Wireless Status	on
Wireless Channel	1
SSID1 Name	ALHN-3F69
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)	100

Ethernet Information

Ethernet Status	Up
Ethernet IP Address	192.168.1.254
Ethernet Subnet Mask	255.255.255.0
Ethernet MAC Address	18.45.93.2f5b.00
Ethernet Rx Packets	127237
Ethernet Tx Packets	176167
Ethernet Rx Bytes	10995145
Ethernet Tx Bytes	18022645

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	18312	18312	0	90613
Packets Sent	30142	30142	0	115903
Bytes Received	1171968	1171968	0	8651209
Bytes Sent	3479419	3479419	0	11063807

Refresh

Table 7-2 LAN Status parameters

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

2

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

END OF STEPS

7.8 Viewing WAN status

1

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

Figure 7-4 WAN Status page

GPON Home Gateway

Logout

Status>WAN Status

Status

Device Information

LAN Status

WAN Status

WAN Status IPv6

Home Networking

Optics Module Status

Statistics

Voice Information

Network

Security

Application

Maintenance

RG Troubleshooting

WAN Connection List

Access Type

Connection Mode

Enable/Disable

VLAN

WAN Link Status

PON Link Status

Tx Packets

Rx Packets

Tx Dropped

Rx Dropped

Err Packets

1_VOIP_TR069_INTERNET_R_VID_881

access_dev1

Dynamic DHCP

☒

881

Linking

Up

Refresh

Table 7-3 WAN Status parameters

Field	Description
WAN Connection List	Drop-down menu listing all WAN connections. The connection shown is the connection for which WAN status will be shown.
Connection Mode	Connection mode of the WAN connection
Enable/Disable	Select this checkbox to enable or disable the WAN connection
VLAN	VLAN ID
WAN Link Status	Whether the WAN link is up or down
IPv4 Address	IP Address of the ONT
Netmask	Network mask
Gateway	Gateway address

Table 7-3 WAN Status parameters (continued)

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

2

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

END OF STEPS

7.9 Viewing WAN IPv6 status

1

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

Figure 7-5 WAN Status IPv6 page

The screenshot displays the 'WAN Status IPv6' configuration page. At the top, there's a header bar with 'GPON Home Gateway' and a 'Logout' link. Below this, a breadcrumb trail shows 'Status > WAN Status IPv6'. The left sidebar contains a tree view with 'Status' selected, and sub-items like 'Device Information', 'LAN Status', 'WAN Status', and 'WAN Status IPv6'. The main content area lists various WAN parameters: 'WAN Connection List' (a dropdown menu), 'Enable/Disable' (a checkbox), 'VLAN' (a text field), 'WAN Link Status' (a status indicator), 'IPv6 address' (a text field), 'IPv6 Prefix' (a text field), 'IPv6 Gateway' (a text field), 'Primary DNS' (a text field), 'Second DNS' (a text field), 'PON Link Status' (showing 'Up'), 'Tx Packets' (0), 'Rx Packets' (0), 'Tx Dropped' (0), 'Rx Dropped' (0), and 'Err Packets' (0). A 'Refresh' button is located at the bottom right of the main content area.

Table 7-4 WAN Status IPv6 parameters

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

Table 7-4 WAN Status IPv6 parameters (continued)

Field	Description
IPv6 Gateway	IPv6 gateway address
Primary DNS	Primary Domain Name Server
Second DNS	Secondary Domain Name Server
PON Link Status	Whether the PON link is up or down
Tx Packets	Number of packets transmitted on the WAN connection
Rx Packets	Number of packets received on the WAN connection
Tx Dropped	Number of packets dropped on the transmit WAN connection
Rx Dropped	Number of packets dropped on the receive WAN connection
Err Packets	Number of errored packets on the WAN connection

2

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

END OF STEPS

7.10 Viewing home networking information

1

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

Figure 7-6 Home Networking page

GPON Home Gateway

Logout

Status>Home Networking

Status

Device Information

LAN Status

WAN Status

WAN Status IPv6

Home Networking

Optics Module Status

Statistics

Voice Information

Network

Security

Application

Maintenance

RG Troubleshooting

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-3FB9	ALHN-3FB9-2	ALHN-3FB9-3	ALHN-3FB9-4
Access Point	18:45:93:2f:5b:09	1a:45:93:1f:5b:09	1a:45:93:2f:5b:09	1a:45:93:3f:5b:09

Wireless Settings (5GHz)

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

Local Devices

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

Routing Domain Details

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

Refresh

Table 7-5 Home Networking parameters

Field	Description
Local Interface	
Ethernet	Table displays the number of Ethernet connections and their settings
Wireless	Table displays the number of wireless connections and their settings (2.4GHz and 5GHz)
Wireless Settings (2.4GHz and 5GHz)	
Network Name	Name of the wireless network
Access Point	Hexadecimal address of the wireless access point
Local Devices	
Table entry	Each entry indicates the status (active or inactive), connection type, device name, IP address, hardware address, IP address allocation, lease remaining, and last active time of each connected local device.
Routing Domain Details	
Table entry	Shows the domain name, WAN name, number of IPs, IP range, and LAN list.

You can:

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

END OF STEPS

7.11 Viewing Optics module status

1

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

Figure 7-7 Optics Module Status page

GPON Home Gateway

Logout

Status>Optics Module Status

Status

Device Information

LAN Status

WAN Status

WAN Status IPv6

Home Networking

Optics Module Status

Statistics

Voice Information

Network

Security

Application

Maintenance

RG Troubleshooting

Laser Bias Current (ONT ANI-ONT-Side Optical Measurements):

10212 uA

Optics Module Voltage (ONT ANI-ONT-Side Optical Measurements):

3187000 uV

Optics Module Temperature (ONT ANI-ONT-Side Optical Measurements):

36.10 °C

Rx Optics Signal Level at 1490 nm (ONT ANI-ONT-Side Optical Measurements):

-18.90 dBm

Tx Optics Signal Level at 1310 nm (ONT ANI-ONT-Side Optical Measurements):

2.02 dBm

Lower (ONT ANI-ONT-Side Optical Measurements-Optical Threshold):

-29.20 dBm

Upper (ONT ANI-ONT-Side Optical Measurements-Optical Threshold):

-5.99 dBm

Refresh

Table 7-6 Optics Module Status parameters

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

2

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

END OF STEPS

7.12 Viewing statistics

1

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

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

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

Figure 7-8 LAN Statistics page

The screenshot shows the GPON Home Gateway web interface. The top bar includes 'GPON Home Gateway' and a 'Logout' link. Below this is a breadcrumb 'Status>Statistics'. On the left is a navigation menu with 'Status' (selected) and 'Statistics' (highlighted in red). Under 'Status' are links for Device Information, LAN Status, WAN Status, WAN Status IPv6, Home Networking, and Optics Module Status. Under 'Statistics' are links for Voice Information, Network (selected), Security, Application, Maintenance, and RG Troubleshooting. The main content area has three tabs: LAN (selected), WAN, and WLAN. A 'Refresh' button is in the top right of the main area. Below the tabs is a table of statistics for LAN1, LAN2, LAN3, and LAN4.

COUNTERS	LAN1	LAN2	LAN3	LAN4
Bytes Sent	3304033	3304033	0	7748301
Bytes Received	1115904	1115904	0	7046018
Packets Sent	28601	28601	0	101549
Packets Received	17436	17436	0	78083
Errors Sent	0	0	0	0
Unicast Packets Sent	0	0	0	66002
Unicast Packets Received	0	0	0	66382
Discard Packets Sent	0	0	0	0
Discard Packets Received	0	0	0	0
Multicast Packets Sent	27878	27878	0	35544
Multicast Packets Received	17436	17436	0	10930
Broadcast Packets Sent	723	723	0	3
Broadcast Packets Received	0	0	0	771
Unknown Proto Packets Received	0	0	0	0
CRC Error Received	0	0	0	0

Figure 7-9 WAN Statistics page

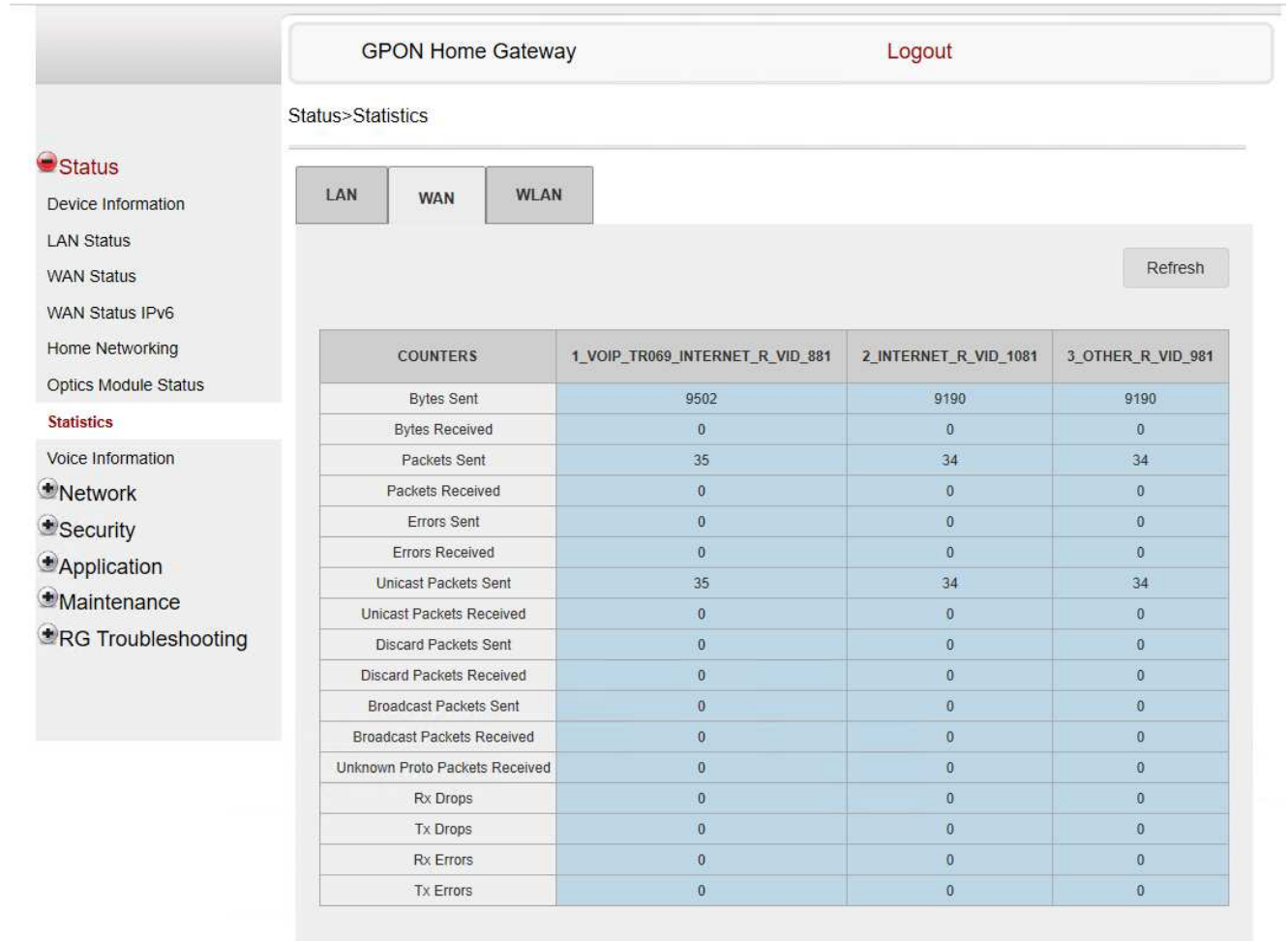


Figure 7-10 WLAN Statistics page

GPON Home Gateway [Logout](#)

Status>Statistics

LAN WAN **WLAN**

Refresh

COUNTERS	2.4GHZ ALHN-F14E	5GHZ ALHN-F14E-5
Bytes Sent	0	0
Bytes Received	0	0
Packets Sent	0	0
Packets Received	0	0
Errors Sent	0	0
Discard Packets Sent	0	0
Discard Packets Received	0	0
Rx Drops	0	0
Tx Drops	0	0

END OF STEPS

7.13 Viewing voice information

1

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

Figure 7-11 Voice Information page

The screenshot shows the 'GPON Home Gateway' interface with a 'Logout' button. The breadcrumb is 'Status>Voice Information'. The left sidebar has a 'Status' section with links to Device Information, LAN Status, WAN Status, WAN Status IPv6, Home Networking, Optics Module Status, and Statistics. Below this is the 'Voice Information' section with links to Network, Security, Application, Maintenance, and RG Troubleshooting. The main content area contains the following fields:

- Line:** A dropdown menu currently showing 'Line 1'.
- Line Status:** Displayed as 'Disabled'.
- Soft Switch:** A text input field.
- Phone Number:** A text input field.
- Register Status:** A text input field.
- Register Error Code:** A text input field.
- Register Error Reason:** A text input field.
- User Agent IP:** A text input field.

A 'Refresh' button is located at the bottom right of the form area.

Table 7-7 Voice Information parameters

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

Table 7-7 Voice Information parameters (continued)

Field	Description
Phone number	Phone number configured for a telephone line 1; For example, +13290611266
Register Status	The default is Registered Blank if no voice service is provisioned
Register Error Code	SIP standard error code for the register status; for example, 401, 403, 503 This field is blank if the register is set to OK
Register Error Reason	SIP standard error reason for the register status This field is blank if the register is set to OK
User Agent IP	IP address of the user agent ExternalIPAddress in WANIPConnection or WANPPPOConnection

2

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

END OF STEPS

Network configuration

7.14 Overview

7.14.1 Purpose

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

7.14.2 Contents

7.14 Overview	89
7.15 Configuring LAN	89
7.16 Configuring LAN IPv6	92
7.17 Configuring WAN	93
7.18 Configuring WAN DHCP	95
7.19 Configuring Wireless 2.4GHz	97
7.20 Configuring Wireless 5GHz	100
7.21 Configuring wireless scheduling	103
7.22 Configuring IP routing	105
7.23 Configuring DNS	107
7.24 Configuring TR-069	109
7.25 Configuring GRE tunnel	110
7.26 Configuring Upstream (US) Classifier	112
7.27 Configuring QoS	119

7.15 Configuring LAN

1

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

Figure 7-12 LAN page

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

Security

Application

Maintenance

RG Troubleshooting

GPON Home Gateway

Logout

Network>LAN

Port Mode

All Ports to Bridge Mode

☐

Port1

Route Mode

Port2

Route Mode

Port3

Route Mode

Port4

Route Mode

Save

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

Save Refresh

Static DHCP Entry

MAC Address

IPv4 Address

Add

2

Configure the following LAN parameters:

Table 7-8 LAN parameters

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

3

Click **Save**.

4

Configure the Static DHCP parameters:

Table 7-9 Static DHCP parameters

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

5

Click **Save**.

6

Click **Add**.

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

END OF STEPS

7.16 Configuring LAN IPv6

1

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

Figure 7-13 LAN IPv6 page

GPON Home Gateway [Logout](#)

Network>LAN_IPv6

IPv6 LAN Host Configuration

DNS Server

Prefix Config

Interface

DHCPv6 Server Pool

DHCP Start IP Address

DHCP End IP Address

Whether the address info through DHCP ☐

Whether other info obtained through DHCP ☒

Maximum interval for periodic RA messages seconds

Minimum interval for periodic RA messages seconds

[Save/Apply](#)

2

Configure the following parameters:

Table 7-10 LAN IPv6 parameters

Field	Description
IPv6 LAN Host Configuration	
DNS Server	Select a DNS server from the list.
Prefix Config	Select a prefix config option from the list, either WANConnection (prefix will be obtained from the WAN) or Static (enables you to enter the prefix).
Interface	This field appears if you selected the Wan Connection option for the “prefix config” field. Select a WAN connection interface from the list.
DHCPv6 Server Pool	
DHCP Start IP Address	Enter the starting DHCP IP address.
DHCP End IP Address	Enter the ending DHCP IP address.
Whether the address info through DHCP	Select this checkbox to enable address information retrieval through DHCP.
Whether other info obtained through DHCP	Select this checkbox to enable retrieval of other information through DHCP.
Maximum interval for periodic RA messages	Enter the maximum interval (in seconds) for periodic Router Advertisement messages. The interval range is from 4 to 1800.
Minimum interval for periodic RA messages	Enter the minimum interval (in seconds) for periodic Router Advertisement messages. The interval range is from 4 to 1800.

3

Click **Save/Apply**.

END OF STEPS

7.17 Configuring WAN

1

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

Figure 7-14 WAN page

GPON Home Gateway Logout

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

Manual DNS:

Save Delete

2

Configure the following parameters:

Table 7-11 WAN parameters

Field	Description
WAN Connection List	Select a WAN connection from the list to set the connection parameters.
Connection Type	Select a connection type: IPoE or PPPoE.
IP mode	Select an IP mode from the list: IPv4 or IPv6.
Enable/Disable	Select this checkbox to enable the WAN connection.
NAT	Select this checkbox to enable NAT.

Table 7-11 WAN parameters (continued)

Field	Description
Service	Select the checkboxes to enable service types for this connection.
Enable VLAN	Select this checkbox to enable VLAN.
VLAN ID	Enter the VLAN ID.
VLAN PRI	Enter the VLAN PRI.
WAN IP Mode	Select an IP mode from the list.
Manual DNS	Enter the manual Domain Name Server.

3

Click **Save**.

END OF STEPS

7.18 Configuring WAN DHCP

1

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

Figure 7-15 WAN DHCP page

GPON Home Gateway [Logout](#)

Network > WAN DHCP

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

[Save](#) [Refresh](#)

2

Configure the following parameters:

Table 7-12 WAN DHCP parameters

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

3

Click **Save**.

END OF STEPS

7.19 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 7-16 Wireless (2.4GHz) page

GPON Home Gateway
Logout

Network

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
Security
Application
Maintenance
RG Troubleshooting

Network>Wireless (2.4GHz)

Enable	☒
Mode	auto(b/g/n/ax)
Bandwidth	20MHz
Channel	Auto
Transmitting Power	100%
WMM	Enable
Enable MU-MIMO	Disable
Total MAX Users	64

SSID Configuration

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

Save
Refresh

2

Configure the following parameters:

Table 7-13 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.
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.

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

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

Notes:

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

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

4 _____
 Click **Save**.

END OF STEPS _____

7.20 Configuring Wireless 5GHz

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

Figure 7-17 Wireless (5GHz) page

GPON Home Gateway

Logout

Network>Wireless (5GHz)

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

Security

Application

Maintenance

RG Troubleshooting

Enable

Bandwidth

Channel

Transmitting Power

WMM

Enable MU-MIMO

Total MAX Users

SSID Configuration

SSID Select

SSID Name

Enable SSID

SSID Broadcast

Port Mode

Isolation

MAX Users

Encryption Mode

WPA Key

Show password

Enable WPS

Domain Grouping

Save

Refresh

2

Configure the following parameters:

Table 7-14 Wireless (5GHz) parameters

Field	Description
Enable	Select this checkbox to enable WiFi.
Bandwidth	Select from: • 20 MHz • 40 MHz • 80 MHz
Channel	Select a channel from the list or select Auto to have the channel automatically assigned.
Transmitting Power	Select a percentage for the transmitting power from the list: • Low (25%) • Medium (50%) • High (75%) • Maximum (100%)
WMM	Select Enable or Disable from the list to enable or disable WiFi multimedia.
Total MAX Users	Enter the total number of MAX users.
SSID Configuration	
SSID Select ¹	Select the SSID from the list.
SSID Name	Change the name of the selected SSID.
Enable SSID	Select Enable or Disable SSID from this list.
SSID Broadcast	Select Enable or Disable SSID broadcast from this list.
Port Mode	Select a port mode from the list. Route is the default.
Isolation	Enable or disable isolation from this list.
MAX Users	Enter the number of MAX users.
Encryption Mode	Select an encryption mode from the list: • WPA2-AES • WPA2+WPA • WPA/WPA2 Enterprise • NONE-OPEN
WPA Key	Enter the WPA key.
Enable WPS	Select Enable or Disable from this list.
WPS Mode	Select a WPS mode from the list: PBC (Push Button Connect) or PIN (Personal Identification Number)
Domain Grouping	
Domain Grouping	Select this checkbox to enable domain grouping. The fields Domain Name, Create One New Domain, WAN Interface, Number of IPs and List LAN are available when the Domain Grouping field is enabled.
Domain Name	Select a domain name from the list.
Create One New Domain	Select this checkbox to create a new domain.

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

Field	Description
WAN Interface	Select a WAN interface from the list
Number of IP	Select the number of IPs connected to the domain.
LAN List	Select one or more checkboxes.

Notes:

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

3 _____

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

4 _____

Click **Save**.

END OF STEPS _____

7.21 Configuring wireless scheduling

1 _____

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

Figure 7-18 Wireless Schedule page

GPON Home Gateway [Logout](#)

Network>Wireless Schedule

Wireless Mode

Schedule Function ☐

Current Time 06/17/1970 07:29:30 PM

Turn off the Wireless signal by the following rules

Start	End	Recurrence Pattern
+		

Left Sidebar Menu:

- 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
- Security
- Application
- Maintenance
- RG Troubleshooting

- 2 _____
Select the **Schedule Function** checkbox to turn the wireless signal off for the configured period.
- 3 _____
Click the plus sign (+) to add a scheduling rule.
A separate panel displays for configuring wireless schedule rules.
- 4 _____
Enter a start time and end time for the period in which you want the wireless signal off.
- 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

7.22 Configuring IP routing

1

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

Figure 7-19 IP Routing page

GPON Home Gateway Logout

Network>IP Routing

Enable Routing ☒

Destination IP Address

Destination Netmask

Gateway

IPv4 Interface

Forwarding Policy Help

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	Dest IP Mask
< Add >															

IP Routing Table

Destination IP Address	Destination Netmask	Gateway	Interface	Forwarding Policy	Enable	Delete
Refresh						

2

Configure the following parameters:

Table 7-15 IP Routing network parameters

Field	Description
Enable Routing	Select this checkbox to enable routing.
Destination IP Address	Enter the destination IP address.
Destination Netmask	Enter the destination network mask.
Gateway	Enter the gateway address.

Table 7-15 IP Routing network parameters (continued)

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

3 _____

Click **Add**.

END OF STEPS _____

7.23 Configuring DNS

1 _____

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

Figure 7-20 DNS page

GPON Home Gateway Logout

Network>DNS

DNS Proxy ☒ Enabled Save

Domain Name

IPv4 Address Add

Origin Domain

New Domain Add

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

Origin Domain	New Domain	Delete

Refresh

2

Configure the following parameters:

Table 7-16 DNS parameters

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

Table 7-16 DNS parameters (continued)

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

END OF STEPS

7.24 Configuring TR-069

1

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

Figure 7-21 TR-069 page

The screenshot shows the 'GPON Home Gateway' configuration interface. At the top right, there is a 'Logout' button. The left sidebar contains a tree view with categories: Status, Network (selected), LAN, LAN_IPv6, WAN, WAN DHCP, Wireless (2.4GHz), Wireless (5GHz), Wireless Schedule, IP Routing, DNS, TR-069 (expanded), GRE Tunnel, US Classifier, QoS Config, Security, Application, Maintenance, and RG Troubleshooting. The main content area is titled 'Network>TR-069'. It contains the following configuration items:

- Periodic Inform Enable:** A checkbox that is checked.
- Periodic Inform Interval(s):** A text input field containing the value '5'.
- URL:** A text input field containing 'https://acsgpon.alu.net'.
- Username:** A text input field containing 'AdminGPON'.
- Password:** A password input field with masked characters (dots).
- Connect Request Username:** A text input field containing 'itms'.
- Connect Request Password:** A password input field with masked characters (dots).

At the bottom of the configuration area, there are two buttons: 'Save' and 'Refresh'.

2

Configure the following parameters:

Table 7-17 TR-069 parameters

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

3

Click **Save**.

END OF STEPS

7.25 Configuring GRE tunnel

1

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

Figure 7-22 GRE Tunnel page

The screenshot shows the 'GPON Home Gateway' interface with a 'Logout' button. The left sidebar contains a tree view with categories: Status, Network (selected), LAN, LAN IPv6, WAN, WAN DHCP, Wireless (2.4GHz), Wireless (5GHz), Wireless Schedule, IP Routing, DNS, TR-069, GRE Tunnel (selected), US Classifier, QoS Config, Security, Application, Maintenance, and RG Troubleshooting. The main content area is titled 'Network > GRE Tunnel'. It features several input fields: 'Tunnel Name' (a dropdown menu showing 'Create new GRE Tunnel'), 'WAN Interface' (a dropdown menu showing '1_VOIP_TR069_INTERNET_R_VID_881'), 'Primary Remote End', 'Secondary Remote End', and 'Connected Remote End' (all empty text boxes). There is a 'Connectivity Check' checkbox which is checked. Below it, 'Traffic timeout to start pings' is a text box with '10' and a range '(2 ~ 1024)seconds'. 'No. of retries before unreachable' is a text box with '3' and a range '(0 ~ 100)times'. At the bottom right are 'Save' and 'Delete' buttons.

2

Configure the following parameters:

Table 7-18 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.

Table 7-18 GRE Tunnel parameters (continued)

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

3

Click **Save**.

END OF STEPS

7.26 Configuring Upstream (US) Classifier

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

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

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

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

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

1

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

Figure 7-23 US Classifier

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

Interface

Source MAC

Source IP

Source Port

IP Protocol Type

(0 - 254)

Classifier

Destination MAC

Destination IP

Destination Port

Name	Interface	Source MAC	Destination MAC	Source IP	Destination IP	Source Port	Destination Port	IP Protocol	Policy	Classifier	Delete

2

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

Figure 7-24 US Classifier- Policy page

GPON Home Gateway Logout

Network>US Classifier

[-] Policy

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: ☐

Save Reset

Name	Tunnel Type	Tunnel Interface	VLAN Id	VLAN Tag	VLAN Priority	IP TOS/DSCP	Drop	No. of Rules	Delete
Refresh									

< >

[+] Classifier

[+] Classifier Rules

3

Configure the following parameters:

Table 7-19 US Classifier Policy parameters

Field	Description
Tunnel Type	The tunnel type is set to GRE and cannot be modified.
Tunnel Interface	Select a tunnel interface from the list: No Tunnel, GRE Tunnel, or LAN traffic.
VLAN ID	Enter a VLAN ID (0-4094).
VLAN Tag	This field is not configurable. The VLAN tag is set to 8100 (hexadecimal).
VLAN Priority	Enter a VLAN priority level (0 to 7). A lower number indicates a higher priority.

Table 7-19 US Classifier Policy parameters (continued)

Field	Description
IP TOS/DSCP	This field is not configurable. All tunnel packets are generated with a default DSCP value (usually 0).
Drop	Select this checkbox to drop the packets.

- 4 _____
Click **Save**.
- 5 _____
To delete a policy, click **Delete** for the applicable policy in the policy table.
A policy can only be deleted if it is not associated with any classifier rules.
- 6 _____
Click **Network→US Classifier** from the left pane in the GPON Home Gateway page and select the **Classifier** tab.
All classifiers are displayed in the classifier table in the page.

Figure 7-25 US Classifier- Classifier page

GPON Home Gateway Logout

Network>US Classifier

[+] Policy
[+] Classifier
[-] Classifier Rules

Policy Classifier

Interface

Source MAC Destination MAC

Source IP Destination IP

Source Port Destination Port

IP Protocol Type
 (0 - 254)

Name	Interface	Source MAC	Destination MAC	Source IP	Destination IP	Source Port	Destination Port	IP Protocol	Policy	Classifier	Delete
Refresh											

7

Configure the following parameters:

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

Table 7-20 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.

Table 7-20 US Classifier parameters (continued)

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

8

Click **Save**.

9

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

10

Expand **Classifier Rules**.

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

Figure 7-26 US Classifier Rules page

GPON Home Gateway Logout

Network>US Classifier

[+] Policy
[+] Classifier
[-] Classifier Rules

Policy Classifier

Interface

Source MAC Destination MAC

Source IP Destination IP

Source Port Destination Port

IP Protocol Type
 (0 - 254)

Name	Interface	Source MAC	Destination MAC	Source IP	Destination IP	Source Port	Destination Port	IP Protocol	Policy	Classifier	Delete
Refresh											

11

Configure the classifier rule.

Table 7-21 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.

Table 7-21 US Classifier Rules parameters (continued)

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

12

Click **Save**.

13

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

END OF STEPS

7.27 Configuring QoS

1

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

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

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

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	DEExclude	So I
< >											

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)

Add

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

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
- Security
- Application
- Maintenance
- RG Troubleshooting

Network>QoS Config

ID	Source MAC	Source MAC Exclude	Protocol	Protocol Exclude	Source Port	Source Port Max	SExclude	Dest Port	Dest Port Max	DExclude	Source IP
< > 											

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 7-22 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 Select the Exclude checkbox to exclude the source MAC address.
Interface	Select an interface from the list.
Classification Result	
DSCP Remark	Enter the value for the DSCP mark (range: 0-63); valid only for L3 Criteria.
802.1p Remark	Enter the value for the 802.1p (range: 0-7).
Forwarding Policy	Enter the number for the forwarding policy (range: 1-7).
Additional fields for L3	
Protocol	Select a protocol from the list, or select the Exclude checkbox.
Application	Select an application from the list.
Source IP and Source IP Mask	Enter the values for the source IP and IP mask, or select the Exclude checkbox.
Destination IP and Destination IP Mask	Enter the values for the destination IP and IP mask, or select the Exclude checkbox.
Source Port and Source Port Max	Enter the values for the source port and port max (highest port number) or select the Exclude checkbox.
Destination Port and Destination Port Max	Enter the values for the destination port and port max (highest port number), or select the Exclude checkbox.

3

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

END OF STEPS

Security configuration

7.28 Overview

7.28.1 Purpose

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

7.28.2 Contents

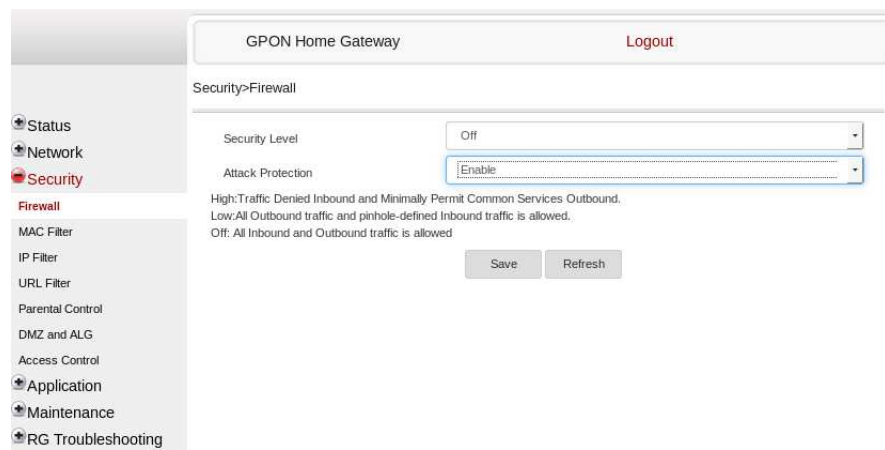
7.28 Overview	123
7.29 Configuring the firewall	123
7.30 Configuring the MAC filter	124
7.31 Configuring the IP filter	126
7.32 Configuring the URL filter	128
7.33 Configuring parental control	129
7.34 Configuring DMZ and ALG	131
7.35 Configuring access control	133

7.29 Configuring the firewall

1

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

Figure 7-29 Firewall page



2

Configure the following parameters:

Table 7-23 Firewall parameters

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

3

Click **Save**.

END OF STEPS

7.30 Configuring the MAC filter

1

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

Figure 7-30 MAC Filter page

GPON Home Gateway

Logout

Security>MAC Filter

Status

Network

Security

Firewall

MAC Filter

IP Filter

URL Filter

Parental Control

DMZ and ALG

Access Control

Application

Maintenance

RG Troubleshooting

Ethernet Interface

MAC Filter Mode

Allowed

LAN Port

☐ LAN1
☐ LAN2
☐ LAN3
☐ LAN4

MAC Address

Custom settings

e.g: D0:54:2D:00:00:00

Save

MAC Address	Delete
Refresh	

Wi-Fi SSID

MAC Filter Mode

Allowed

SSID Select

SSID1

Enable

☐

MAC Address

Custom settings

e.g: D0:54:2D:00:00:00

MAC Address Description

Save

Status	Index	Description	MAC Address	Edit	Delete
Select All Delete Refresh					

2

Configure the following parameters:

Table 7-24 MAC Filter parameters

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

3

Click **Save**.

You can:

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

END OF STEPS

7.31 Configuring the IP filter

1

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

Figure 7-31 IP Filter page

2

Configure the following parameters:

Table 7-25 IP Filter parameters

Field	Description
Enable IP Filter	Select this checkbox to enable an IP filter.
Mode	Select an IP filter mode from the list: • Drop for upstream • Drop for downstream
Internal Client	Select an internal client from the list: • Custom settings - uses the IP address input below • IP - uses the connecting devices' IP to the ONT
Local IP Address	Enter the local IP address.
Source Subnet Mask	Enter the source subnet mask.

Table 7-25 IP Filter parameters (continued)

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

3

Click **Add**.

END OF STEPS

7.32 Configuring the URL filter

1

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

Figure 7-32 URL Filter page

GPON Home Gateway Logout

Security>URL Filter

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		

Add Filter

2

Configure the following parameters:

Table 7-26 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

7.33 Configuring parental control

1

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

Figure 7-33 Parental Control page

Status

Network

Security

Firewall

MAC Filter

IP Filter

URL Filter

Parental Control

DMZ and ALG

Access Control

Application

Maintenance

RG Troubleshooting

GPON Home GatewayLogout

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
- Select the **Access Control** checkbox.
- 3
- Click the plus sign (+) to add a policy.
A separate panel displays for configuring the policy name, IP address of the device, and dates and times for the policy.
- 4
- Configure the following parameters:

Table 7-27 Parental Control parameters

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

Table 7-27 Parental Control parameters (continued)

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

5 _____

Click **Save changes**.

6 _____

Click **Enable** to activate the policy.

END OF STEPS _____

7.34 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 7-34 DMZ and ALG page

GPON Home Gateway Logout

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 7-28 ALG parameters

Field	Description
ALG Config	Select the checkboxes to enable the protocols to be supported by the ALG: FTP, TFTP, SIP, H323, RTSP, L2TP, IPSEC, PPTP.
DMZ Config	
WAN Connection List	Select a WAN connection from the list.
Enable DMZ	Select this checkbox to enable DMZ on the chosen WAN connection.
DMZ IP Address	Select Custom Settings and enter the DMZ IP address or select the IP address of a connected device from the list.

3

Click **Save ALG**.

4

Configure the following parameters:

Table 7-29 DMZ parameters

Field	Description
ALG Config	Select the checkboxes to enable the protocols to be supported by the ALG: FTP, TFTP, SIP, H323, RTSP, L2TP, IPSEC, PPTP.
DMZ Config	
WAN Connection List	Select a WAN connection from the list.
Enable DMZ	Select this checkbox to enable DMZ on the chosen WAN connection.
DMZ IP Address	Select Custom Settings and enter the DMZ IP address or select the IP address of a connected device from the list.

5

Click **Save DMZ**.

END OF STEPS

7.35 Configuring access control

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



Note: ACL takes precedence over the firewall policy.

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

1

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

Figure 7-35 Access Control page

GPON Home Gateway Logout

Security > Access Control

WAN LAN

1_VOIP_TR069_INTERNE

Trusted Network Enable ☐

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

SFTP access can be set in Application -> USB

Save Refresh

Trusted Network

Source IP Start

Source IP End

Add

Source IP Start	Source IP End	Delete

2

Configure the following parameters:

Table 7-30 Access Control parameters

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

Table 7-30 Access Control parameters (continued)

Field	Description
ICMP, Telnet, SSH, HTTP, TR-069, HTTPS, SFTP	Select an access control level for each protocol: WAN side: Allow, Deny, or Trusted Network Only LAN side: Allow or Deny

3

Click **Save**.

4

Optionally, add one or more subnet trusted networks.

The maximum number of entries is 32.

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

Table 7-31 Trusted Network parameters

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

5

Click **Add**.

END OF STEPS

Configuring the Application

7.36 Overview

7.36.1 Purpose

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

7.36.2 Contents

7.36 Overview	136
7.37 Configuring port forwarding	136
7.38 Configuring port triggering	138
7.39 Configuring DDNS	140
7.40 Configuring NTP	142
7.41 Configuring USB	143
7.42 Configuring UPnP and DLNA	145
7.43 Configuring voice	146

7.37 Configuring port forwarding

1

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

Figure 7-36 Port Forwarding page

GPON Home Gateway Logout

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

Add

Application Name	WAN Connection	WAN Port	LAN Port	Device Name	Internal Client	Protocol	Status	Delete
------------------	----------------	----------	----------	-------------	-----------------	----------	--------	--------

2

Configure the following parameters:

Table 7-32 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

Table 7-32 Port Forwarding parameters (continued)

Field	Description
Enable Mapping	Select this checkbox to enable mapping.
WAN Connection List	Select a WAN connection from the list. Note: Only active devices are shown on this list.

3

Click **Add**.

END OF STEPS

7.38 Configuring port triggering

1

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

Figure 7-37 Port Triggering page

GPON Home Gateway

Logout

Application>Port Triggering

Status

Network

Security

Application

Port Forwarding

Port Triggering

DDNS

NTP

USB

UPNP and DLNA

Voice Setting

Maintenance

RG Troubleshooting

Application Name

Open Port

Triggering Port

Expire Time

Open Protocol

Trigger Protocol

Enable Triggering

WAN Connection List

Custom settings

~

~

600

TCP

TCP

☐

1_VOIP_TR069_INTERNET_R_VID_881

Add

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

2

Configure the following parameters:

Table 7-33 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.
Triggering Port	Enter the triggering port range.
Expire Time	Enter the expiration time in seconds.

Table 7-33 Port Triggering parameters (continued)

Field	Description
Open Protocol	Select the open port protocol from the list: • TCP • UDP • TCP/UDP
Trigger Protocol	Select the triggering port protocol from the list: • TCP • UDP • TCP/UDP
Enable Triggering	Select this checkbox to enable port triggering.
WAN Connection List	Select a WAN connection from the list. Note: Only active devices are shown on this list.

3

Click **Add**.

END OF STEPS

7.39 Configuring DDNS

1

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

Figure 7-38 DDNS page

The screenshot shows the 'GPON Home Gateway' interface with a 'Logout' button. The left sidebar contains a tree view with the following items: Status, Network, Security, Application (highlighted in red), Port Forwarding, Port Triggering, DDNS (highlighted in red), NTP, USB, UPNP and DLNA, Voice Setting, Maintenance, and RG Troubleshooting. The main content area is titled 'Application>DDNS'. It features a 'WAN Connection List' dropdown menu with '1_VOIP_TR069_INTERNET_R_VID_881' selected. Below this is an 'Enable DDNS' checkbox, which is currently unchecked. Further down are input fields for 'ISP', 'Domain Name', 'Username', and 'Password'. At the bottom right of the form are 'Save' and 'Refresh' buttons.

2

Configure the following parameters:

Table 7-34 DDNS parameters

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

3

Click **Save**.

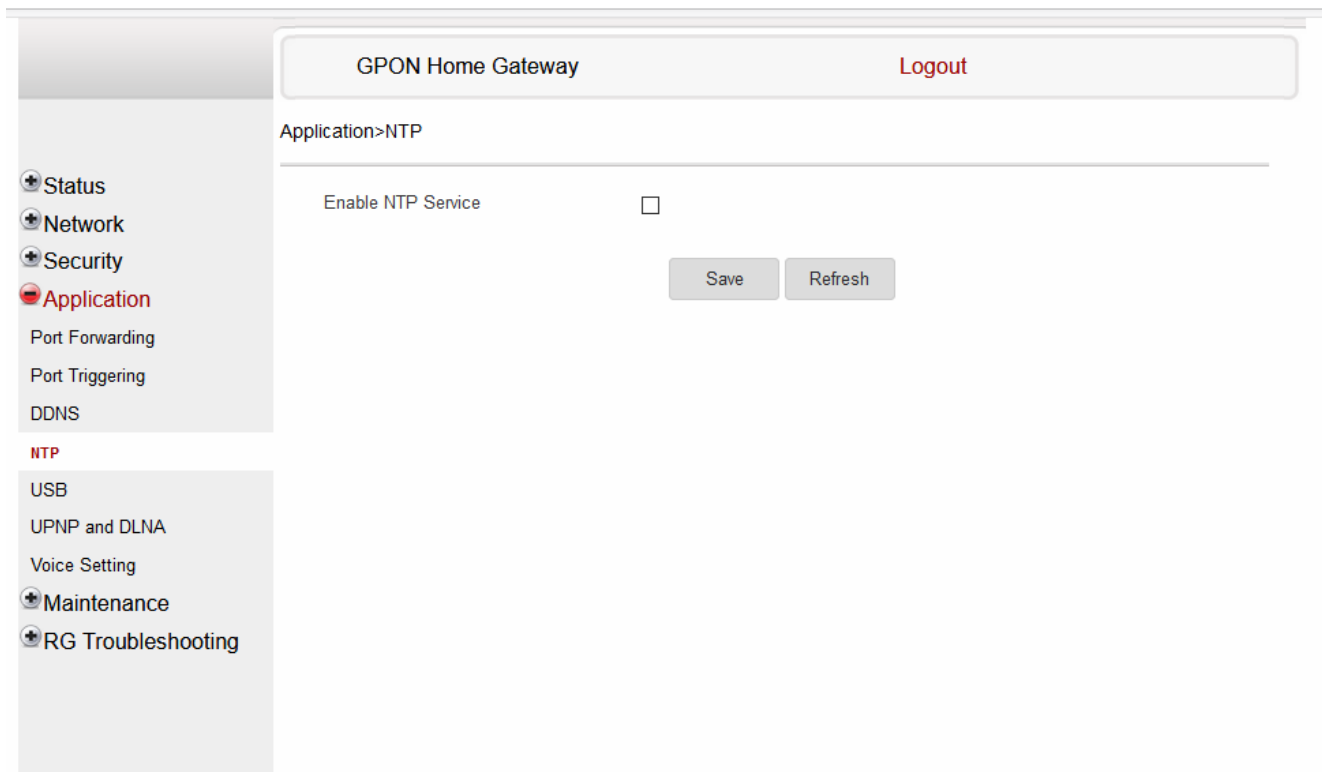
END OF STEPS

7.40 Configuring NTP

1

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

Figure 7-39 NTP page



2

Configure the following parameters:

Table 7-35 NTP parameters

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

3

Click **Save**.

END OF STEPS

7.41 Configuring USB

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

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

1

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

Figure 7-40 USB page

Status

Network

Security

Application

Port Forwarding

Port Triggering

DDNS

NTP

USB

UPNP and DLNA

Voice Setting

Maintenance

RG Troubleshooting

GPON Home Gateway

Logout

Application>USB

Enable FTP Server

☐

Username

ftppadmin

Password

.....

Re-enter Password

.....

Enable SFTP Server

☐

Enable SFTP for Remote Access

☐

Username

sftpadmin

Password

Re-enter Password

Enable Printer Sharing

☐

Username

myprinter

Password

Re-enter Password

Connected USB Devices Table

Host Number	Device Name	Format	Total Space	Free Space

Save

Refresh

2

Configure the following parameters:

Table 7-36 USB parameters

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

Table 7-36 USB parameters (continued)

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

3

Click **Save**.

END OF STEPS

7.42 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 7-41 UPnP and DLNA page

The screenshot shows the GPON Home Gateway web interface. At the top, there is a header bar with 'GPON Home Gateway' and a 'Logout' link. Below this, a breadcrumb trail reads 'Application>UPNP and DLNA'. The left sidebar contains a menu with the following items: Status, Network, Security, Application (highlighted with a red circle), Port Forwarding, Port Triggering, DDNS, NTP, USB, UPNP and DLNA (highlighted with a red circle), Voice Setting, Maintenance, and RG Troubleshooting. The main content area is titled 'UPnP/DLNA' and contains a single checkbox labeled 'Enable UPnP/DLNA'. To the right of the checkbox is a 'Save/Apply' button.

2 _____

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

3 _____

Click **Save/Apply**.

END OF STEPS _____

7.43 Configuring voice

1 _____

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

Figure 7-42 Voice Setting page

GPON Home Gateway

Logout

Application>Voice Setting

Status

Network

Security

Application

Port Forwarding

Port Triggering

DDNS

NTP

USB

UPNP and DLNA

Voice Setting

Maintenance

RG Troubleshooting

Voice Setting:

Outbound Proxy

Outbound Proxy Port

Proxy Server

Proxy Server Port

Registrar Server

Registrar Server Port

UserAgentDomain

UserAgentPort

DigitMap

DTMF Mode

FaxT38

Line Setting:

POTS Line

Enable

Directory Number

AuthUserName

AuthPassword

URI

Save

2

Configure the following parameters:

Table 7-37 Voice Setting parameters

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

3

Click **Save**.

END OF STEPS

Maintenance

7.44 Overview

7.44.1 Purpose

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

7.44.2 Contents

7.44 Overview	149
7.45 Configuring the password	149
7.46 WAN speed test	151
7.47 Speed test history	152
7.48 Configuring LOID	154
7.49 Configuring SLID	155
7.50 Managing the device	156
7.51 Backing up the configuration	158
7.52 Restoring the configuration	159
7.53 Upgrading firmware	160
7.54 Rebooting the device	161
7.55 Resetting to factory defaults	162
7.56 Diagnosing WAN connections	163
7.57 Viewing log files	164

7.45 Configuring the password

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

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

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

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 7-43 Password page

GPON Home Gateway [Logout](#)

Maintenance>Password

Original Password

New Password

Re-enter Password

Prompt Message

2

Configure the following parameters:

Table 7-38 Password parameters

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

3

Click **Save**.

END OF STEPS

7.46 WAN speed test

1

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

GPON Home Gateway [Logout](#)

Maintenance>Speed Test

[Ookla Privacy Policy](#)

Download Speed Upload Speed

0.00 0.00

0 Mbits/s 0 Mbits/s 1000 1000

It is recommended not to make any process of uploading or downloading files or make use of any device associated with the optical terminal. This aims to ensure a more precise speed measurement.

[Start](#) [Cancel](#)

Click start to start speed test.

2

Accept Ookla Privacy Policy as instructed in the Note displayed.

Click **Start** to start the speed test.

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

END OF STEPS

7.47 Speed test history

1

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

Figure 7-44 Speed Test History

GPON Home Gateway

Logout

Maintenance>Speed Test History

Status

Network

Security

Application

Maintenance

Password

Speed Test

Speed Test History

LOID Configuration

SLID Configuration

Device Management

Backup and Restore

Firmware Upgrade

Reboot Device

Factory Default

Diagnostics

Log

RG Troubleshooting

Speed Test History

Date (Time)	Download (Mbps)	Upload (Mbps)	Ping (ms)	Jitter (ms)
23-4-1970 03:43:34 AM	21.17	28.78	250.99	0.75
23-4-1970 03:51:02 AM	26.95	28.68	259.17	0.21
23-4-1970 03:53:55 AM	22.16	28.86	255.86	0.29
23-4-1970 06:02:32 AM	24.56	28.01	245.78	0.29
23-4-1970 06:15:36 AM	25.77	28.54	258.74	4.25
23-4-1970 07:14:13 AM	23.84	28.63	246.42	1.48
25-4-1970 10:25:31 PM	24.55	28.5	249.4	0.59
26-4-1970 10:43:08 AM	21.21	28.27	248.7	0.13
1-5-1970 11:28:56 PM	26.29	28.54	252.26	0.64
1-5-1970 11:40:28 PM	25.99	28.17	248.66	1.17
1-5-1970 11:58:28 PM	25.15	28.32	253.08	0.06
2-5-1970 00:08:32 AM	25.53	28.54	249.54	0.22
2-5-1970 03:04:37 AM	23.6	28.42	250.93	10.35
2-5-1970 03:05:42 AM	24.13	28.69	265.32	2.78
2-5-1970 11:18:22 AM	23.05	28.34	251.08	0.19
2-5-1970 11:21:34 AM	23.29	28.45	245.56	1.51
2-5-1970 11:27:43 AM	26.68	28.64	241.23	0.42
4-5-1970 03:39:49 AM	23.19	28.63	251.82	0.26
6-5-1970 12:38:32 AM	26.19	28.43	247.51	0.48
6-5-1970 12:40:20 AM	25.68	28.63	253.04	0.49
7-5-1970 01:33:43 AM	26.58	28.82	256.65	0.94
7-5-1970 03:47:00 AM	18.02	28.58	262.21	0.26
8-5-1970 03:45:14 AM	27.2	28.64	247.78	0.26

Refresh

The history of speed test is displayed.

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

END OF STEPS

The history of the speed test is displayed.

7.48 Configuring LOID

1

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

Figure 7-45 LOID Configuration page

GPON Home Gateway Logout

Maintenance>LOID Configuration

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:

Save/Apply

2

Configure the following parameters:

Table 7-39 LOID Configuration parameters

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

3

Click **Save/Apply**.

END OF STEPS

7.49 Configuring SLID

1

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

Figure 7-46 SLID Configuration page

The screenshot shows the 'GPON Home Gateway' interface with a 'Logout' button. The left sidebar contains a menu with 'Maintenance' highlighted. The main content area is titled 'Maintenance>SLID Configuration'. It displays the 'Current SLID' as '44454641554C54'. Below this is a text input field for 'Enter New SLID'. A 'SLID Mode' dropdown menu is set to 'HEX Mode'. A 'Note' section provides details: 'ASCII Mode: Maximum of 10 ASCII characters allowed (e.g. abcdefg123).' and 'HEX Mode: Maximum of 20 HEX numbers allowed (e.g. 1234567890ABCDEF1234)'. At the bottom are 'Save' and 'Refresh' buttons.

2

Configure the following parameters:

Table 7-40 SLID Configuration parameters

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

3

Click **Save**.

END OF STEPS

7.50 Managing the device

1

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

Figure 7-47 Device Management page

GPON Home Gateway Logout

Maintenance>Device Management

Host Name:

Host Alias:

Host Name	Host Alias	Delete
Refresh		

2 _____

Configure the following parameters:

Table 7-41 Device Management parameters

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

3 _____

Click **Add**.

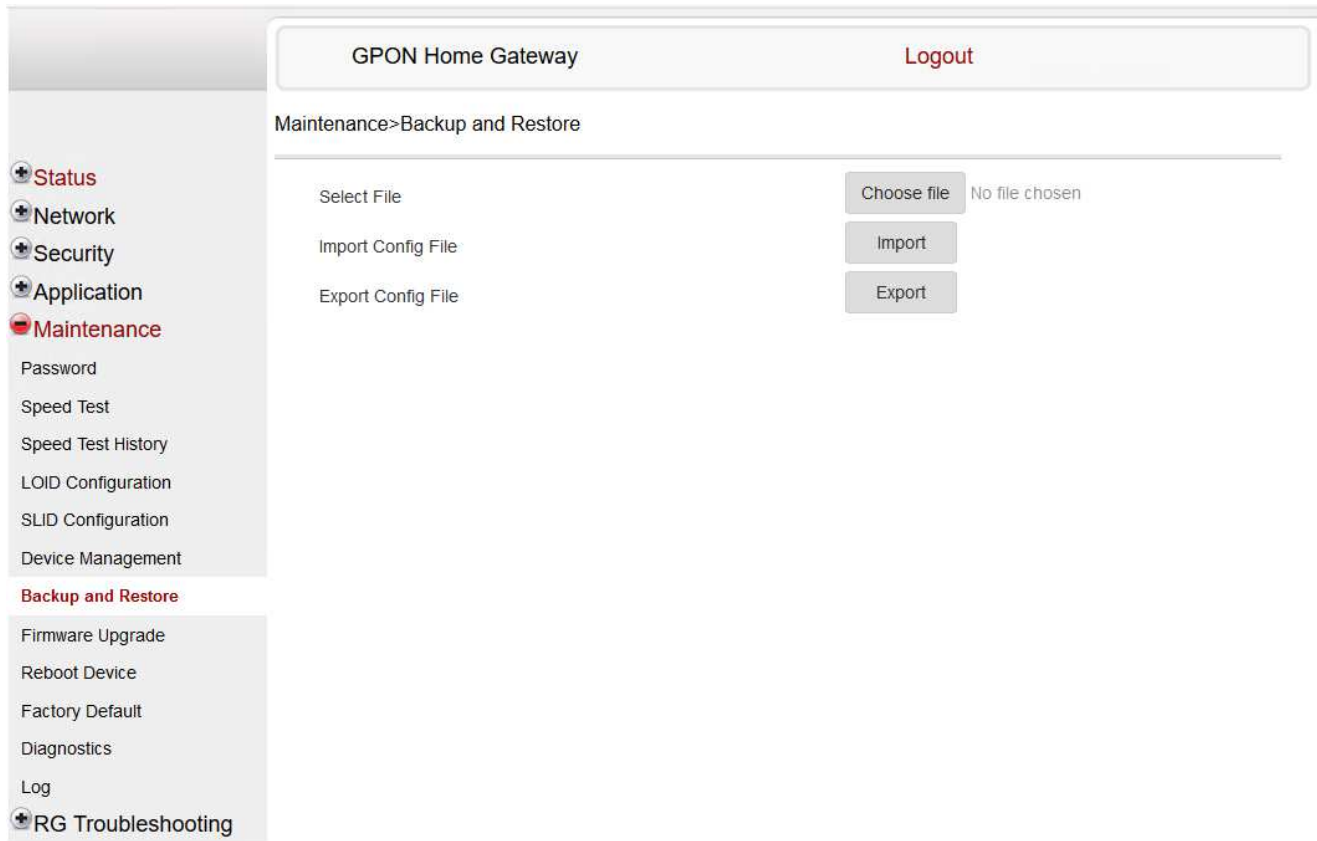
END OF STEPS _____

7.51 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 7-48 Backup and Restore page



2

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

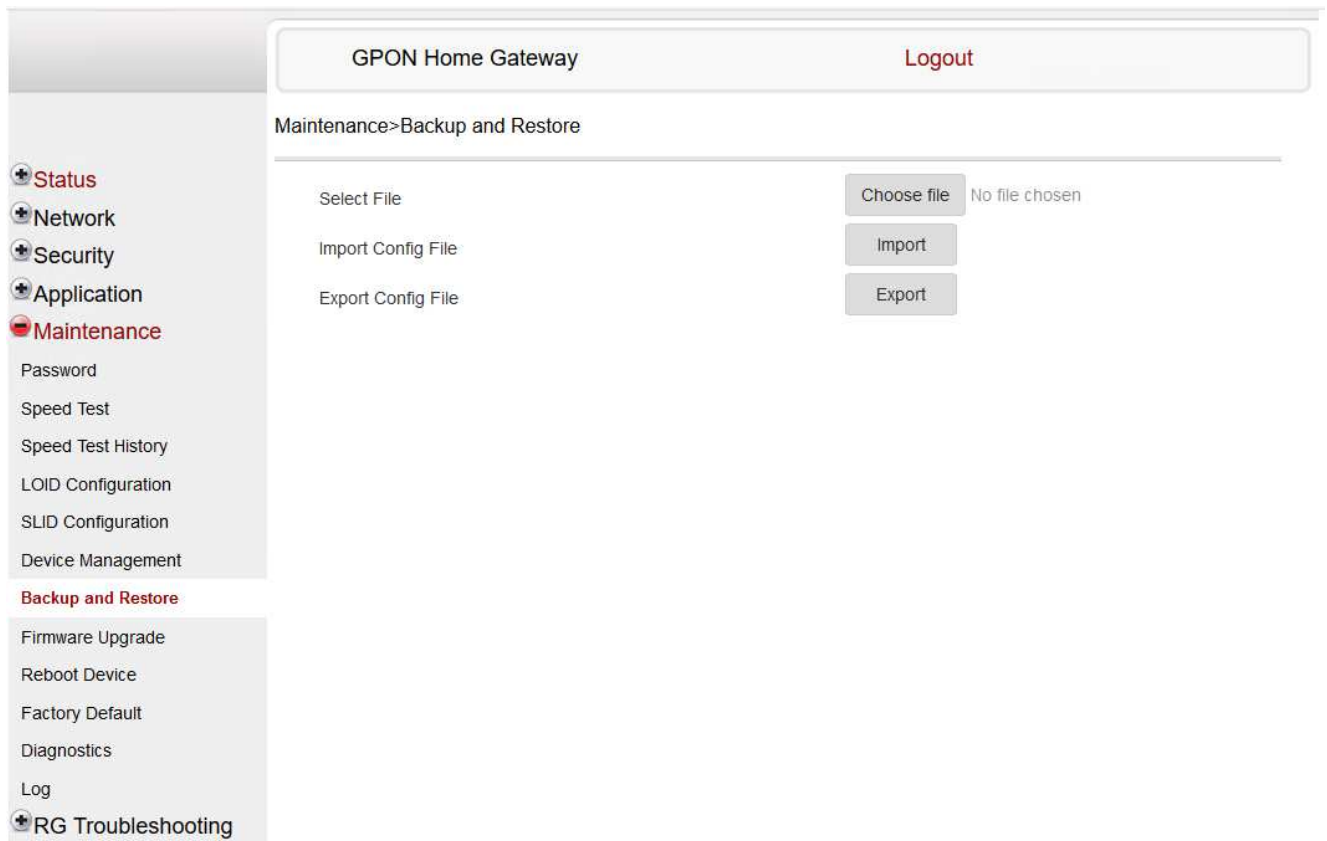
END OF STEPS

7.52 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 7-49 Backup and Restore page



2

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

3

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

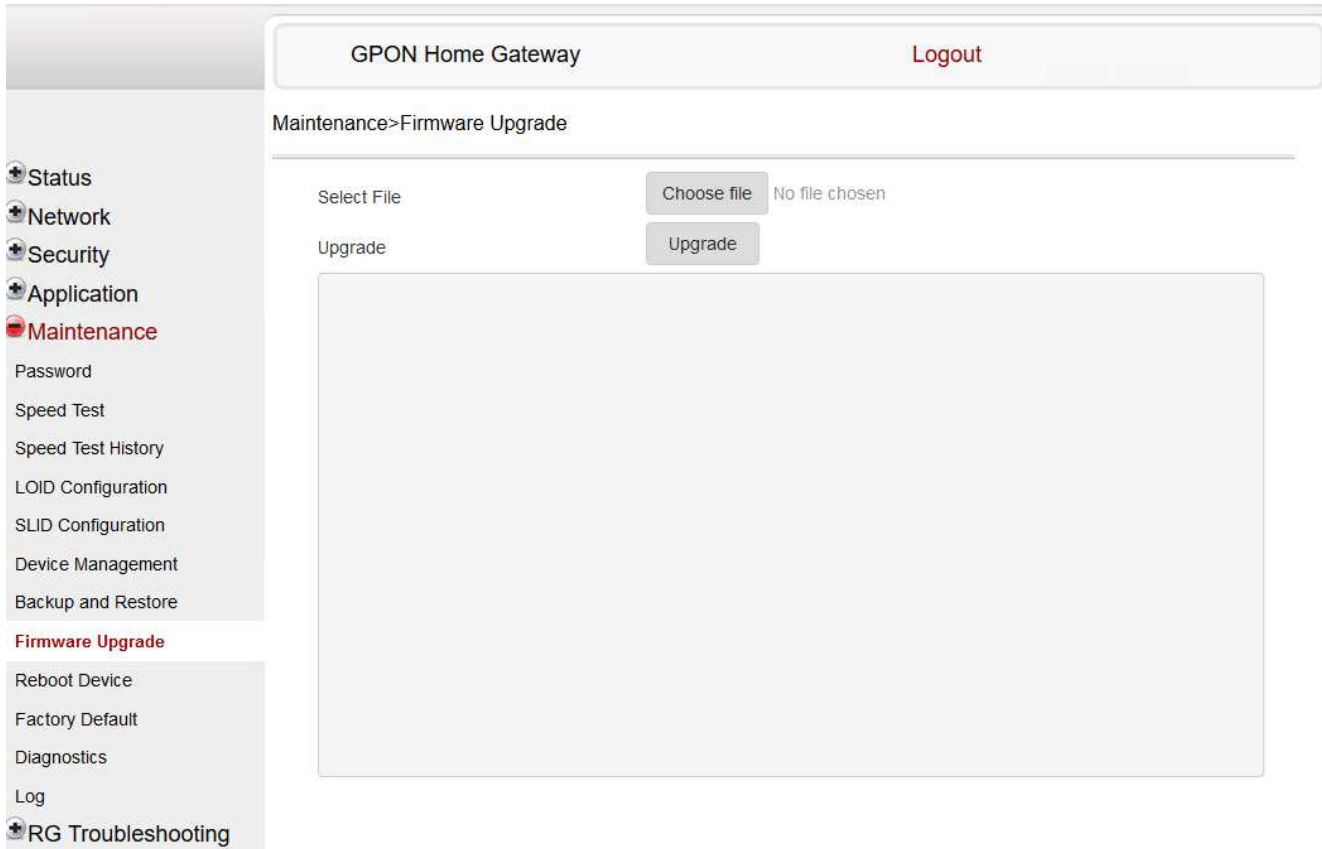
END OF STEPS

7.53 Upgrading firmware

1

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

Figure 7-50 Firmware Upgrade page



2

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

3

Click **Upgrade** to upgrade the firmware.

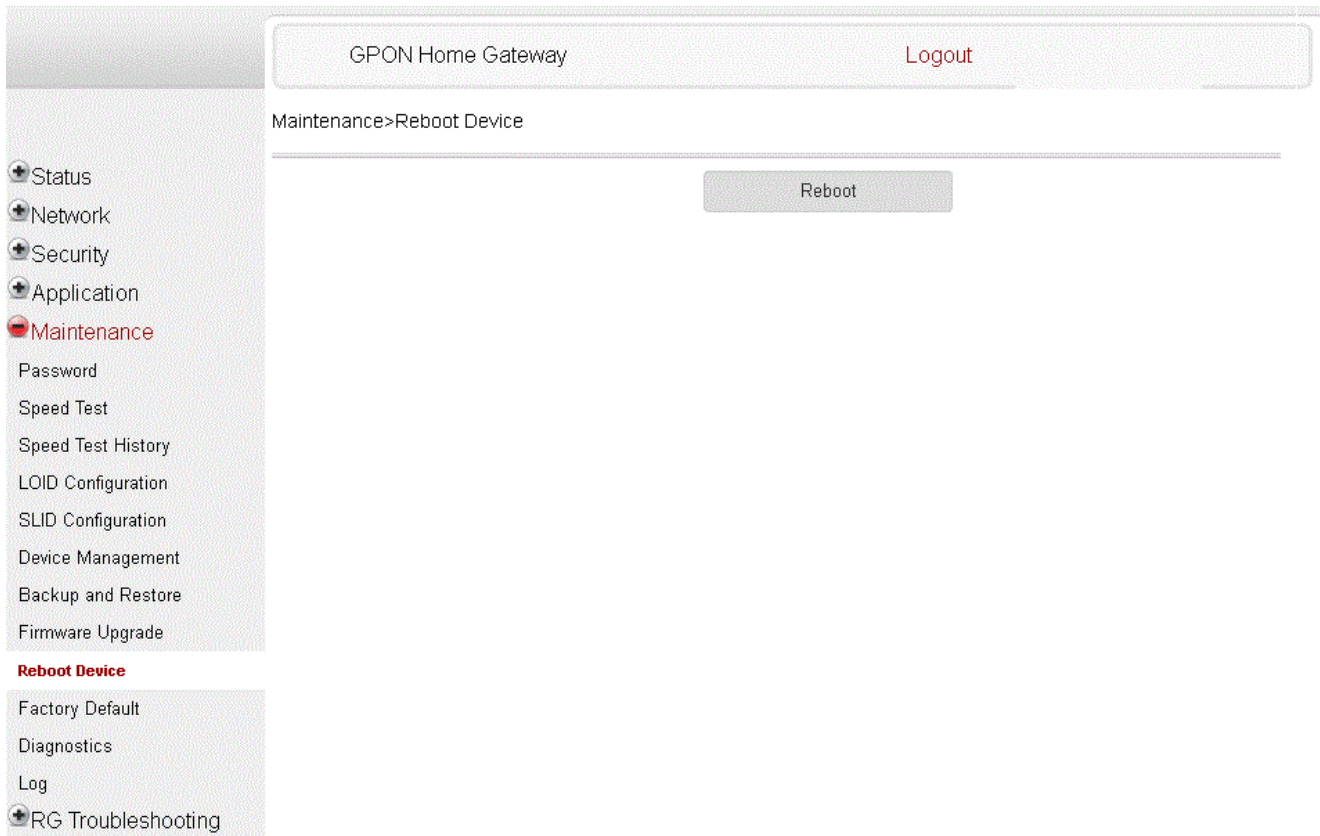
END OF STEPS

7.54 Rebooting the device

1

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

Figure 7-51 Reboot Device page



2

Click **Reboot** to reboot the ONT.

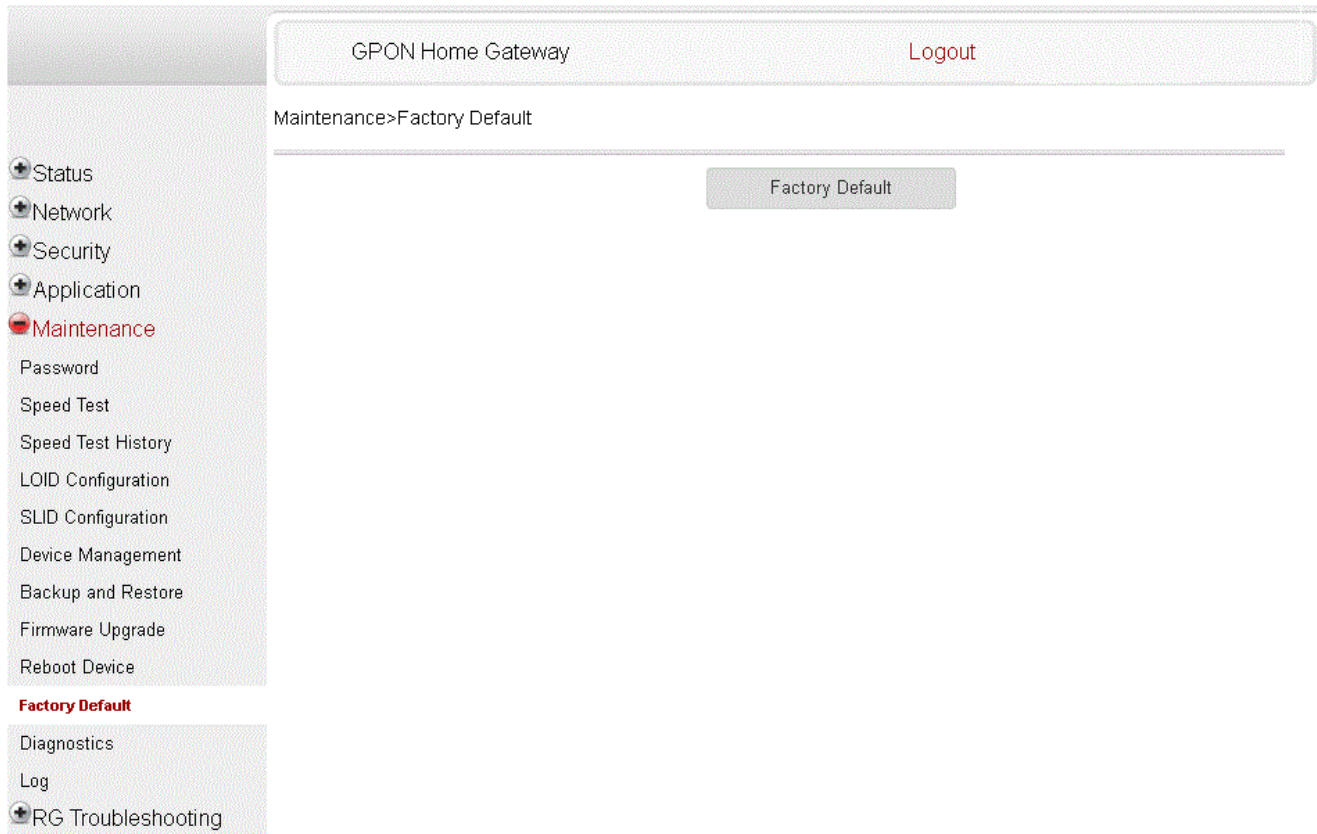
END OF STEPS

7.55 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 7-52 Factory Default page



2

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

END OF STEPS

7.56 Diagnosing WAN connections

1

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

Figure 7-53 Diagnostics page

2

Select a WAN connection to diagnose from the list.

3

Enter the IP address or domain name.

-
- 4 _____
Select the test type: ping, traceroute, or both.
- 5 _____
Enter the number of ping attempts to perform (1 - 1000); the default is 4.
- 6 _____
Enter a ping packet length (64-1024); the default is 64.
- 7 _____
Enter the maximum number of trace hops (1-255); the default is 30.
- 8 _____
Click **Start Test**. The results will be displayed at the bottom of the page.
- 9 _____
Click **Cancel** to cancel the test.

END OF STEPS _____

7.57 Viewing log files

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

Figure 7-54 Log page

GPON Home Gateway Logout

Maintenance > Log

Writing Level: Informational

Reading Level: Error

Manufacturer:ALCL
ProductClass:G-140W-H
SerialNumber:ALCL00862470
HWVer:3FE48054AAAA
SWVer:3FE48077HJHK70
IP:192.168.1.254

1970-01-01 00:00:28 [alert] boot image1 fail count: 1
[err] <131>1 1970-04-22T22:11:42.250486+00:00 AONT dhcpd 4128 -- DHCP-Comm:dealRequestMessage()
[err] <131>1 1970-04-22T22:13:16.438323+00:00 AONT dhcpd 4128 -- DHCP-Comm:dealRequestMessage()
[err] <131>1 1970-04-22T22:13:25.496605+00:00 AONT syslog 12904 -- open /tmp/brasinfo.txt failed in readi
[alert] <129>1 1970-04-22T22:16:16.624003+00:00 AONT syslog 17598 -- brcm_burn_image: upgrade image
1970-01-01 00:00:24 [alert] boot image0 fail count: 1
[err] <131>1 1970-04-22T22:19:25.870561+00:00 AONT dhcpd 2925 -- DHCP-Comm:dealRequestMessage()
[err] <131>1 1970-04-22T22:21:11.376765+00:00 AONT syslog 10960 -- [spdtst_ResultFileExists] File /flash
[err] <131>1 1970-04-22T22:21:13.728539+00:00 AONT syslog 11032 -- [spdtst_ResultFileExists] File /flash
[err] <131>1 1970-04-22T22:21:15.372970+00:00 AONT syslog 11098 -- [spdtst_ResultFileExists] File /flash
[err] <131>1 1970-04-22T22:21:17.410019+00:00 AONT syslog 11126 -- [spdtst_ResultFileExists] File /flash
[err] <131>1 1970-04-22T22:21:19.375654+00:00 AONT syslog 11142 -- [spdtst_ResultFileExists] File /flash
[err] <131>1 1970-04-22T22:21:21.391863+00:00 AONT syslog 11166 -- [spdtst_ResultFileExists] File /flash.

Save Refresh

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.

END OF STEPS

RG Troubleshooting Counters

7.58 Overview

7.58.1 Purpose

This section describes the RG troubleshooting counters GUI procedures.

7.58.2 Contents

7.58 Overview	167
7.59 Viewing Residential Gateway (RG) troubleshooting counters	167

7.59 Viewing Residential Gateway (RG) troubleshooting counters

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

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

1

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

Status

Network

Security

Application

Maintenance

RG Troubleshooting

RG Troubleshoot Counters

GPON Home Gateway

Logout

RG Troubleshooting>RG Troubleshoot Counters

WAN Connection List

1_INTERNET_TR069_VOIP_R_VID_881

US Throughput

US-SpeedTest

DS Throughput

DS-SpeedTest

US Packet Loss

0

DS Packet Loss

0

Internet Status

Linking

Latency

LatencyTest

DNS Response Time

DNSResponseTest

Refresh

2

Configure the following parameters:

Table 7-42 RG Troubleshooting Counters parameters

Field	Description
WAN Connection List	Select a WAN connection from the list.
US Throughput	This test is used to determine the upstream throughput/speed. Click US Speed Test to specify the time for the upstream test. The default is weekly, performed at idle to a public server.
DS Throughput	This test is used to determine the downstream throughput/speed. Click DS Speed Test to specify the time for the downstream test. The default is weekly, performed at idle to a public server.
US Packet Loss	Indicates the number of upstream packages lost.

Table 7-42 RG Troubleshooting Counters parameters (continued)

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

3

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

END OF STEPS

8 ONT configuration file over OMCI

8.1 Overview

8.1.1 Purpose

8.1.2 Contents

8.1 Overview	171
8.2 Purpose	171
8.3 Supported configuration file types	171
8.4 ONT configuration file over OMCI	174

8.2 Purpose

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

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

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

8.3 Supported configuration file types

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

Table 8-1 Supported configuration files

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

Table 8-1 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.

8.3.1 Filename conventions

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

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

ABCXXXXVER

where

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

XXXX is the operator ID

For PRE and CFG, a valid operator ID is required

For XML and GFT, any characters may be used

VER is the file version (from 001 to 999)

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

8.3.2 Download configuration file

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

Table 8-2 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 8-2 Download configuration files (continued)

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

8.4 ONT configuration file over OMCI



WARNING

Equipment Damage

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

Use this procedures to configure ONTs using configuration files via legacy method and OMCI.

8.4.1 Configuring an ONT using a configuration file via legacy method

1

Upload the ABCXXXXVER TAR file to the /ONT/ directory in the OLT.
A maximum of 250 files can be kept in the OLT file system.

2

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

For OLT commands, refer to the *7360 ISAM FX CLI Command Guide for 100_320Gbps FD NT and FX NT*, or the **7342 ISAM FTTU Operation and Maintenance Using TL1 and CLI**.

Please note:

- **pri-cfgfile-pland/dnload** or **sec-cfgfile-pland/dnload** can be 1 to 14 characters.
- **pri-cfgfile-pland** and **pri-cfgfile-dnload** should be the same name.

Examples

Note: X can be 1 or 2 unless specified:

- If **pland-cfgfileX= Disabled** and **dnload-cfgfileX= Disabled** ,
no file will be downloaded to the ONT.
- If **pland-cfgfileX=FILENAME1** and **dnload-cfgfileX= Disabled** ,
FILENAME1 will be downloaded and FILENAME1 will be made active. An ONT reboot is required.
- If **pland-cfgfileX=Disabled** and **dnload-cfgfileX= FILENAME2**
FILENAME2 will be downloaded and FILENAME2 will be made passive. An ONT reboot is not required.
- 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.

8.4.2 Configuring an ONT using a configuration file via OMCI

1

Generate the TAR file to be uploaded to the OLT.

Using the raw configuration file(s) provided by Nokia, generate the TAR file as follows:

- a. On a Linux platform, rename the raw configuration file to adhere to the naming convention, as described in section 8.3 "Supported configuration file types" (p. 171).
- b. Tar the **ABCXXXXXVER** raw configuration file:

```
tar -cf ABCXXXXXVER.tar ABCXXXXXVER
```

Where

ABCXXXXXVER

Is the name of the file created in step i.

This creates two files: **ABCXXXXXVER** and **ABCXXXXXVER.tar**.

- c. Rename **ABCXXXXXVER** to **ABCXXXXXVER.org**
- d. Remove the ".tar" extension from **ABCXXXXXVER.tar** file.

2

Upload the ABCXXXXXVER 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:

- If **pland-cfgfileX= Disabled** and **dnload-cfgfileX= Disabled** ,
no file will be downloaded to the ONT.
- If **pland-cfgfileX=FILENAME1** and **dnload-cfgfileX= Disabled** ,
FILENAME1 will be downloaded and FILENAME1 will be made active. An ONT reboot is required.
- If **pland-cfgfileX=Disabled** and **dnload-cfgfileX= FILENAME2**
FILENAME2 will be downloaded and FILENAME2 will be made passive. An ONT reboot is not required.
- If **pland-cfgfileX=FILENAME3** and **dnload-cfgfileX= FILENAME 4**, the OLT reports an error because the filenames are not the same.
- 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.
- If **pland-cfgfileX=Auto** and **dnload-cfgfileX= Auto**
The OLT will download the XML file from "sw-ctrl-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.