7368 Intelligent Services Access Manager CPE

7368 ISAM CPE A-240Z-A Product Guide

3FE-46615-AAAA-TCZZA

Issue: 01

1 Preface

This preface provides general information about the documentation set for CPEs.

1.1 Scope

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

1.2 Audience

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

1.3 Required knowledge

The reader must be familiar with general telecommunications principles.

1.4 Acronyms and initialisms

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

1.5 Assistance and ordering phone numbers

Nokia provides global technical support through regional call centers. Phone numbers for the regional call centers are available at the following URL: http://support.alcatel-lucent.com.

For ordering information, contact your Nokia sales representative.

1.6 Nokia quality processes

Nokia’s CPE quality 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

1.7 Safety information

For safety information, see the appropriate safety guidelines chapter.

1.8 Documents

Documents are available using ALED or OLCS.

Procedure 1 To download a ZIP file package of the customer documentation

1 Navigate to http://support.alcatel-lucent.com 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 From the Technical Content for drop-down menu, choose the product.

3 Click on Downloads: Electronic Delivery.

4 Choose Documentation from the drop-down menu and click Next.

5 Select the image from the drop-down menu and click Next.

6 Follow the on-screen directions to download the file.

Procedure 2 To access individual documents

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

1 Navigate to http://support.alcatel-lucent.com 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 From the Technical Content for drop-down menu, choose the product.

3 Click on Manuals and Guides to display a list of customer documents by title and part number. You can filter this list using the Release drop-down menu.

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

1.9 Special information

The following are examples of how special information is presented in this document.

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

Caution — 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.

1.9.1 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.

Procedure 3 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.

Procedure 4 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:

i This is the first substep.

ii This is the second substep.

iii This is the third substep.

2 You must perform this step.

1.10 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.

Procedure 5 To search multiple PDF files for a common term

1 Open Adobe Acrobat Reader.

2 Choose Edit→Search from the Acrobat Reader main menu. The Search PDF panel appears.

3 Enter the search criteria.

4 Click on the All PDF Documents In radio button.

5 Select the folder in which to search using the drop-down menu.

6 Click on the Search button.

Acrobat Reader displays the search results. You can expand the entries for each document by clicking on the + symbol.

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2 ETSI CPE safety guidelines

This chapter provides information about the mandatory regulations that govern the installation and operation of CPEs.

2.1 Safety instructions

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

2.1.1 Safety instruction boxes

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

The following is an example of the Danger box.

Danger — 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 1 — Possibility of equipment damage.

Warning 2 — 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 1 — Possibility of service interruption.

Caution 2 — 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 CPEs. It does not provide safety-related instructions.

2.1.2 Safety-related labels

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

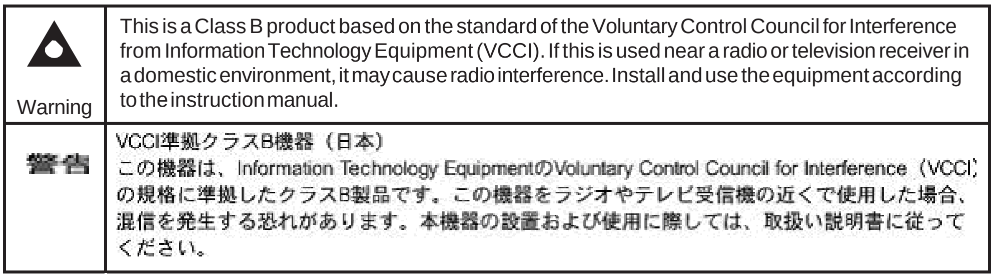
Table 1 provides sample safety labels on the CPE equipment.

Table 1 **Safety labels**

Description	Label text
ESD warning	Caution: This assembly contains an electrostatic sensitive device.
PSE marking	These power supplies are Japan PSE certified and compliant with Japan VCCI emissions standards.

Figure 1 shows the PSE certification.

Figure 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.
警告	VCCI準拠クラスB機器（日本） この機器は、Information Technology EquipmentのVoluntary Control Council for Interference（VCCI）の規格に準拠したクラスB製品です。この機器をラジオやテレビ受信機の近くで使用した場合、混信を発生する恐れがあります。本機器の設置および使用に際しては、取扱い説明書に従ってください。

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2.2 Safety standards compliance

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

2.2.1 EMC, EMI, and ESD compliance

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

- 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 (CPEs)

2.2.2 Equipment safety standard compliance

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

2.2.3 Environmental standard compliance

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

2.2.4 Resistibility requirements compliance

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

2.2.5 Acoustic noise emission standard compliance

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

2.3 Electrical safety guidelines

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

Note 1 — The CPEs 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.

Note 2 — The CPEs comply with BS EN 61140.

2.3.1 Power supplies

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

2.3.2 Cabling

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

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

2.3.3 Protective earth

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

2.4 ESD safety guidelines

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

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

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

2.5 Environmental requirements

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

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

- The door of the CPE not be opened until temperature inside and outside the enclosure has stabilized.
- If the door of the CPE 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 CPE helps prevent condensation when the door is opened.

3 ETSI environmental and CRoHS guidelines

This chapter provides information about the ETSI environmental China Restriction of Hazardous Substances (CRoHS) regulations that govern the installation and operation of CPEs. This chapter also includes environmental operation parameters of general interest.

3.1 Environmental labels

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

3.1.1 Overview

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

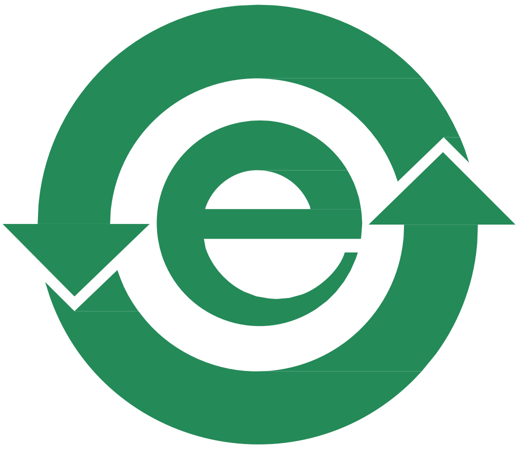
3.1.2 Environmental related labels

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

3.1.2.1 Products below Maximum Concentration Value (MCV) label

Figure 2 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.

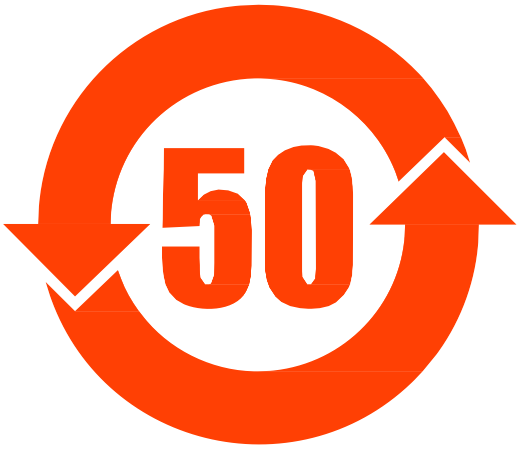
Figure 2 **Products below MCV value label**



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

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

Figure 3 **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 “Hazardous Substances Table (HST)” for more information.

3.2 Hazardous Substances Table (HST)

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

3.3 Other environmental requirements

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

3.3.1 CPE environmental requirements

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

3.3.2 Storage

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

3.3.3 Transportation

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

3.3.4 Stationary use

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

3.3.5 Thermal limitations

When the OLT is installed in the CO or CEV, install air filters on the P-OLT. The thermal limitations for OLT operation in a CO or CEV are:

- operating temperature: 5°C to 40°C (41°F to 104°F)
- short-term temperature: –5°C to 50°C (23°F to 122°F)
- operating relative humidity: 5% to 85%
- short-term relative humidity: 5% to 95%, but not to exceed 0.024 kg of water/kg

3.3.6 Material content compliance

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

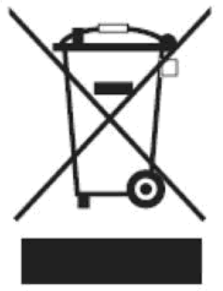
Nokia has implemented a material/substance content management process. The process is described in: Nokia process for ensuring RoHS Compliance (1AA002660031ASZZA). This ensures compliance with the European Union Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical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

3.3.7 End-of-life collection and treatment

Electronic products bearing or referencing the symbol shown in Figure 4, when put on the market within the European Union (EU), shall be collected and treated at the end of their useful life, in compliance with applicable EU and local legislation. They shall not be disposed of as part of unsorted municipal waste. Due to materials that may be contained in the product, such as heavy metals or batteries, the environment and human health may be negatively impacted as a result of inappropriate disposal.

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

Figure 4 **Recycling/take back/disposal of product symbol**



At the end of their life, the OLT and CPE 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 4 at the end of their useful life, or products displaced by Nokia equipment offers. For information regarding take-back of equipment by Nokia, or for more information regarding the requirements for recycling/disposal of product, contact your Nokia account manager or Nokia take back support at sustainability.global@nokia.com.

4 ANSI CPE safety guidelines

This chapter provides information about the mandatory regulations that govern the installation and operation of CPEs in the North American or ANSI market.

4.1 Safety instructions

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

4.1.1 Safety instruction boxes in customer documentation

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

The following is an example of the Danger box.

Danger — 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 1 — Possibility of equipment damage.

Warning 2 — 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 1 — Possibility of service interruption.

Caution 2 — 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 CPEs. It does not provide safety-related instructions.

4.1.2 Safety-related labels

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

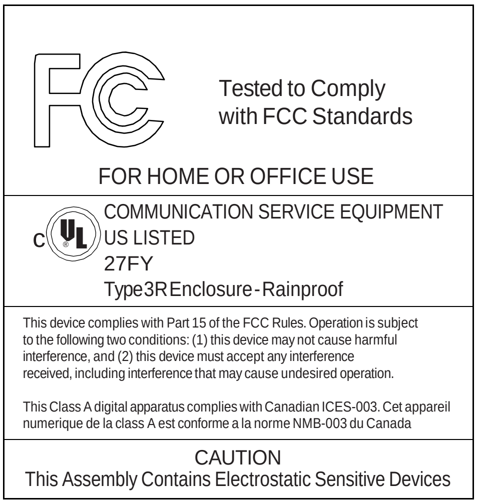
Table 2 provides examples of the text in the various CPE safety labels.

Table 2 **Safety labels**

Description	Label text
ETL 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.
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.
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.
CE marking	There are various CE symbols for CE compliance.

Figure 5 shows a sample safety label on the CPE equipment.

Figure 5 **Sample safety label on the CPE equipment**



Tested to Comply
with FCC Standards

FOR HOME OR OFFICE USE

COMMUNICATION SERVICE EQUIPMENT
US LISTED
27FY
Type3R Enclosure - Rainproof

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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

CAUTION
This Assembly Contains Electrostatic Sensitive Devices

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4.2 Safety standards compliance

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

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

4.2.1 EMC, EMI, and ESD standards compliance

The CPE equipment complies with the following requirements:

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

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

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

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

4.2.2 Equipment safety standard compliance

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

4.2.3 Environmental standards compliance

The CPE equipment complies with the following standards:

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

4.2.4 Resistibility requirements compliance

The CPE equipment complies with the requirements of ITU Recommendation K.21 for resistibility of telecommunication equipment installed in customer premises to overvoltage and overcurrents.

4.3 Electrical safety guidelines

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

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

4.3.1 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.

4.3.2 Cabling

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

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

4.3.3 Protective earth

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

4.4 ESD safety guidelines

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

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

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 CPE equipment. In addition, you must control relative humidity, use static dissipating material for furniture or flooring, and restrict the use of air conditioning.

4.5 Environmental requirements

See the CPE technical specification documentation for temperature ranges for CPEs.

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

- The door of the CPE not be opened until temperature inside and outside the enclosure has stabilized.
- If the door of the CPE 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 CPE helps prevent condensation when the door is opened.

5 A-240Z-A unit data sheet

5.1 A-240Z-A part numbers and identification

Table 3 provides part numbers and identification information for the A-240Z-A CPE.

Table 3 **Identification of A-240Z-A CPEs**

Ordering part number	Provisioning number	Description	CLEC	CPR	ECI/ Bar code
3FE 46615 AA (CPE only; no power supply)	3FE 46615 AA	CPE with 1 GE uplink, 2 POTS ports, 4 10/100/1000 Base-T Ethernet interfaces, and 802.11ac 4x4 and 802.11n 2x2 WiFi radio with on/off switch. This CPE has 2 USB 2.0 ports. This CPE has integrated ZigBee and Z-Wave (US) band chip sets for use in wireless home automation systems.	BVMF510BRA	—	—
3FE 46615 AB (CPE only; no power supply)	3FE 46615 AB	CPE with 1 GE uplink, 2 POTS ports, 4 10/100/1000 Base-T Ethernet interfaces, and 802.11ac 4x4 and 802.11n 2x2 WiFi radio with on/off switch. This CPE has 2 USB 2.0 ports. This CPE has integrated ZigBee and Z-Wave (EU band chip sets for use in wireless home automation systems.	—	—	—
3FE 46615 AC (CPE only; no power supply)	3FE 46615 AC	CPE with 1 GE uplink, 2 POTS ports, 4 10/100/1000 Base-T Ethernet interfaces, and 802.11ac 4x4 and 802.11n 2x2 WiFi radio with on/off switch. This CPE has 2 USB 2.0 ports. This CPE has integrated ZigBee and Z-Wave (AUS band) chip sets for use in wireless home automation systems.	—	—	—
3FE 46614 AA	3FE 46615 AA	CPE with 1 GE uplink, 2 POTS ports, 4 10/100/1000 Base-T Ethernet interfaces, and 802.11ac 4x4 and 802.11n 2x2 WiFi radio with on/off switch. This CPE has 2 USB 2.0 ports. This CPE has integrated ZigBee and Z-Wave (US band) chip sets for use in wireless home automation systems. Includes power supply with US plug.	BVMF510BRA	—	—
3FE 46614 BA	3FE 46615 AB	CPE with 1 GE uplink, 2 POTS ports, 4 10/100/1000 Base-T Ethernet interfaces, and 802.11ac 4x4 and 802.11n 2x2 WiFi radio with on/off switch. This CPE has 2 USB 2.0 ports. This CPE has integrated ZigBee and Z-Wave (EU band) chip sets for use in wireless home automation systems. Includes power supply with EU plug.	—	—	—
3FE 46614 CA	3FE 46615 AB	CPE with 1 GE uplink, 2 POTS ports, 4 10/100/1000 Base-T Ethernet interfaces, and 802.11ac 4x4 and 802.11n 2x2 WiFi radio with on/off switch. This CPE has 2 USB 2.0 ports. This CPE has integrated ZigBee and Z-Wave (EU band) chip sets for use in wireless home automation systems. Includes power supply with UK plug.	—	—	—

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Ordering part number	Provisioning number	Description	CLEC	CPR	ECI/ Bar code
3FE 46614 DA	3FE 46615 AC	CPE with 1 GE uplink, 2 POTS ports, 4 10/100/1000 Base-T Ethernet interfaces, and 802.11ac 4x4 and 802.11n 2x2 WiFi radio with on/off switch. This CPE has 2 USB 2.0 ports. This CPE has integrated ZigBee and Z-Wave (AUS band) chip sets for use in wireless home automation systems. Includes power supply with AUS plug.	—	—	—

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Table 4 provides the detail for the power supply for the A-240Z-A.

Table 4 **A-240Z-A power supply**

Power/UPS model	Power UPS and cabling part number information	Customer category or country compliance tested for	Notes
Fuhua AC/DC switching power adapter	(1) Part number: 1AF30114 AAAA (2) AC power cord, 1AB07676xxxx: • 0098: Australia • 0099: United Kingdom • 0100: Europe • 0101: United States	ANSI municipality United States, Canada Common European Union countries	12V, 36W, 3A, 6kV surge protection

5.2 A-240Z-A general description

The A-240Z-A CPE is the answer for home networking delivered by Gigabit Ethernet. The device is a fully integrated residential gateway with the latest Wi-Fi technology that allows for a full gigabit experience toward every device with limited wiring and boxes.

The A-240Z-A has built-in concurrent dual-band Wi-Fi® 802.11b/g/n and 802.11ac networking with triple play capability that simplifies the home equipment experience.

A-240Z-A CPEs contain integrated ZigBee and Z-Wave chip sets for use in wireless home automation systems. These Zigbee and Z-wave interfaces can connect to a wide range of Internet of Things (IOT) devices.

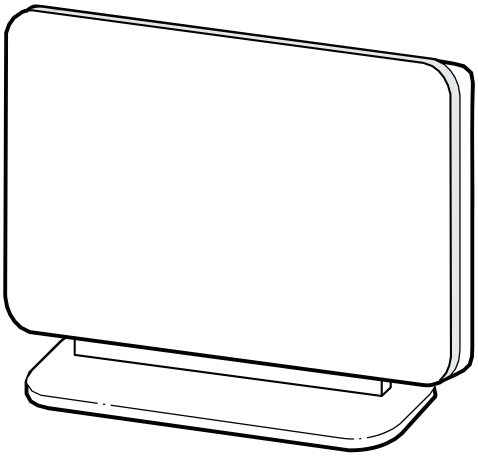
For information about configuring home automation files, see the section “Smart Home configuration” in the chapter “Configure an A-240Z-A CPE”.

A-240Z-A CPEs can also be configured using the Nokia Smart Home Mobile App, which can be downloaded on both iOS and Android devices.

Additional information about Smart Home configuration, including instructions for the Nokia Digital ONU mobile application, can be found by visiting: https://resources.nokia.com/asset/200375.

The A-240Z-A is a compact CPE that can easily fit on a desk or shelf. For dimensions, see section 5.6. Figure 6 shows the A-240Z-A in its stand.

Figure 6 **A-240Z-A CPE in its stand**



A-240Z-A CPEs provide the following functions:

- GE Ethernet uplink
- Zigbee and Zwave interfaces
- Concurrent 802.11n 2x2 MIMO in 2.4GHz and 802.11ac 4x4 MIMO in 5GHz
- auto-negotiation for speed and duplex on a port by port basis
- Bridged mode or routed mode per LAN port
- Advanced data features: VLAN tag manipulation, classification, and filtering
- Traffic classification and QoS capability
- Analog Telephone Adapter (ATA) function integrated based on SIP (RFC3261) and H.248, with various CLASS services supported, including Caller ID, Call Waiting, Call Forwarding, and Call Transfer
- 5 REN per line
- Multiple voice Codec
- MDI/MDIX auto-negotiation
- Line Rate L2 traffic
- Internal Switch
- UPnP IGD2.0 support
- Internal DHCP server, with configurable DHCP pool and gateway
- 64/128 WEP encryption
- WPA, WPA-PSK/TKIP

- WPA2, WPA2-PSK/AES
- support for multiple SSIDs (private and public instances); contact your Nokia representative for further details.
- LED on/off button (on back of ONT)
- WPS LED buttons for 2.4G and 5G
- Ethernet-based Point-to-Point (PPPoE)
- Network Address Translation (NAT)
- Network Address Port Translation (NAPT)
- ALG and UPnP port forwarding
- DMZ
- IP/MAC filter
- Multi-level firewall
- DNS server
- DHCP client/server
- support for HT40 mode for increased channel bandwidth
- support for up to 32 simultaneous wireless connections
- External USB HD (Hard Drive) support, accessible to all LAN devices
- support for AIS with DOWN MEP
- remote software image download

5.2.1 TR-069 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 dBm)

These are the same TR-069 object parameters that are supported in the GUI. For more information, see Tables 24 and 25 in the chapter “Configure an A-240Z-A CPE”.

5.2.2 TR69 authentication using TLS and CA certificates

A-240Z-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.

5.2.3 TR-104 parameter extension support for voice service

A proprietary 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 proprietary attribute is: X_ALU-COM_XML_File_Name_Path.

5.3 A-240Z-A software and installation feature support

For information on installing or replacing the A-240Z-A see:

- Install an A-240Z-A CPE
- Replace an A-240Z-A CPE

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

- CPE and MDU general descriptions of features and functions
- Ethernet interface specifications
- POTS interface specifications
- Wi-Fi specifications
- SLID entry via Ethernet port
- CPE management using a CPE interface

5.4 A-240Z-A interfaces and interface capacity

Table 5 describes the supported interfaces and interface capacity for A-240Z-A CPEs.

Table 5 **A-240Z-A CPE interface connection capacity**

CPE type and model	Maximum capacity								
	POTS	10/ 100 BASE-T	10/ 100/1000 1000 BASE-T	RF video (CATV)	MoCA	VDSL2	E1/T1	Local craft	GE uplink
A-240Z-A [1]	2	—	4	—	—	—	—	—	1

Note

[1] The A-240Z-A CPEs provide Wi-Fi service that is enabled and disabled using a Wi-Fi on/off switch.

5.4.1 A-240Z-A connections and components

Figure 7 shows the physical connections for A-240Z-A CPEs.

Figure 7 **A-240Z-A CPE physical connections**

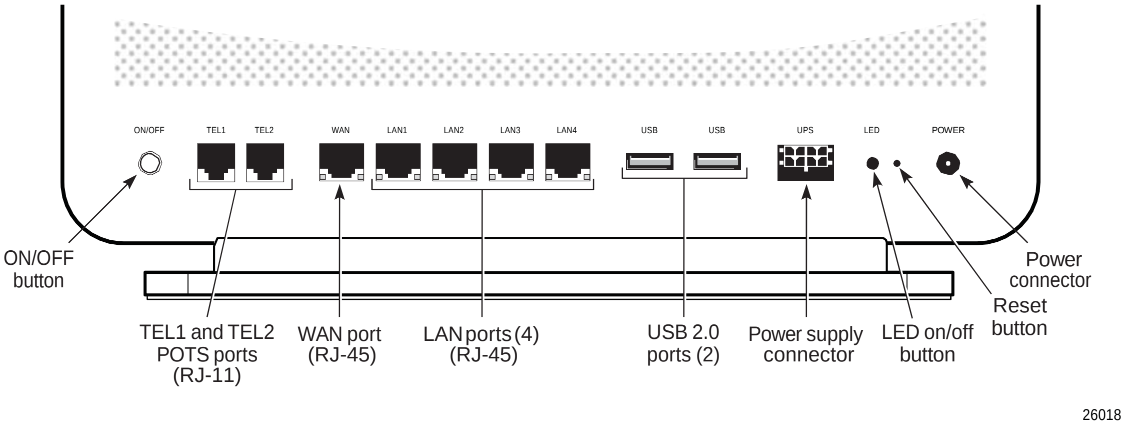


Table 6 describes the physical connections for A-240Z-A CPEs.

Table 6 **A-240Z-A CPE physical connections**

Connection [1]	Description
On/Off button	This button turns the CPE on or off.
POTS ports	This connection is provided through RJ-11 ports. Up to two POTS connections are supported.The POTS ports support voice services.
WAN port	This connection is provided through an RJ-45 GE interface.
Ethernet ports (LAN)	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.
USB ports	This connection is provided through 2 USB 2.0 ports. The maximum combined current is 1000mA. The throughput for each port is 90 Mbps. The CPE supports external USB hard drives that can be made accessible to all LAN devices.
UPS (power supply) input	This connection is provided through a UPS connector.
LED ON/Off button	This button is used to turn all LEDs on or off.
Reset button	Pressing the Reset button for less than 10 seconds reboots the CPE; pressing the Reset button for 10 seconds resets the CPE to the factory defaults, except for the LOID and SLID.
Power input	This connection is provided through the power connector. A power cable fitted with a barrel connector is used to make the connection.

Note

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

5.5 A-240Z-A LEDs

Figure 8 shows the A-240Z-A CPE LEDs.

Figure 8 **A-240Z-A CPE LEDs**

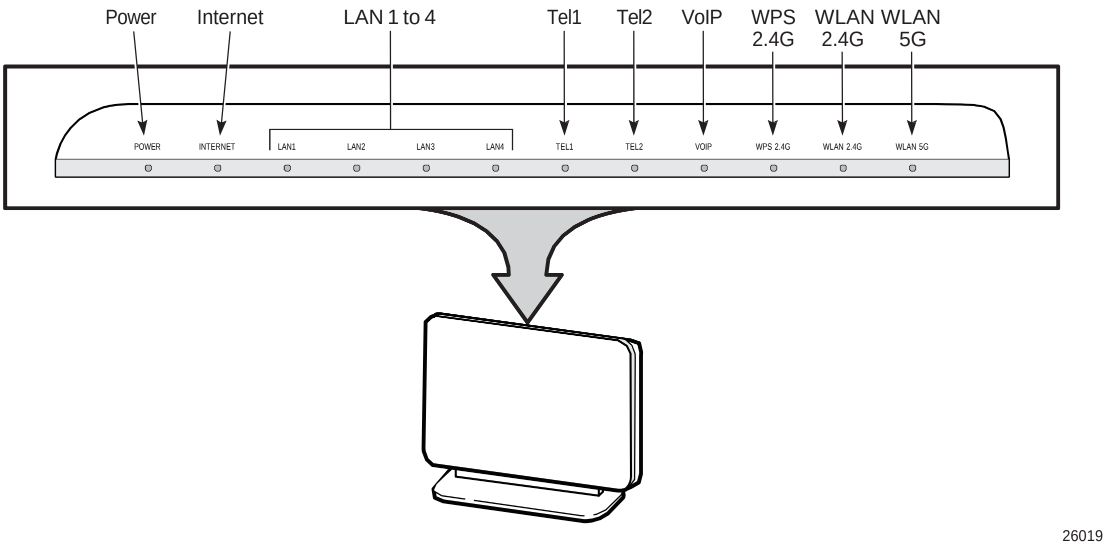


Table 7 provides LED descriptions for A-240Z-A CPEs.

Table 7 **A-240Z-A CPE LEDs**

Indicator	LED color and behavior	LED behavior description
Power	Green solid Off Red solid (default until software is running)	Power on Power off CPE is operating on battery power, or light failed on startup (for example corrupt flash), or self test failed on startup, or self test failed during regular operation.
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. PPPoE or DHCP connection 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.
LAN 1 to 4	Green solid Green flashing Off	Ethernet is linked LAN activity is present (in either direction) Ethernet is not connected, or no power to CPE

(1 of 2)

Indicator	LED color and behavior	LED behavior description
TEL 1 to 2	Green solid Green flashing Off	Telephone on POTS port has been provisioned and phone is off hook Telephone on POTS port is in ‘call in’ or ‘talking’ condition, or battery is low Telephone on POTS port is on hook, or battery missing or no power to CPE
VOIP	Green solid Off	VOIP service is built up and can provide service VOIP service is not built up or out of service, or no power to CPE
WPS 2.4G and 5G	Green solid Green flashing Off RED	WPS is enabled or WPS negotiation is successful WPS is in progress WPS is disabled, or no power to CPE WPS error or session overlap
WLAN 2.4G and 5G	Green solid Green flashing Off	WLAN link is enabled (up) Traffic is passing on the WLAN link WLAN link is disabled (down)

(2 of 2)

5.6 A-240Z-A detailed specifications

Table 8 lists the physical specifications for A-240Z-A CPEs.

Table 8 **A-240Z-A CPE physical specifications**

Description	Specification
Width	10.8 in. (273.5 mm)
Height	6.8 in. (173 mm)
Depth	3.0 in. (76.6 mm)
Weight [within ± 0.5 lb (0.23 kg)]	2.1 lb (.94 kg)

Table 9 lists the power consumption specifications for A-240Z-A CPE.

Table 9 **A-240Z-A CPE power consumption specifications**

Maximum power (Not to exceed)	Condition	Minimum power	Condition
25 W	2 POTS off-hook, 4 10/100/1000 Base-T Ethernet, Wi-Fi operational, USB not connected	8.9 W	2 POTS on-hook, other interfaces/services not provisioned

Table 10 lists the environmental specifications for A-240Z-A CPE.

Table 10 **A-240Z-A CPE environmental specifications**

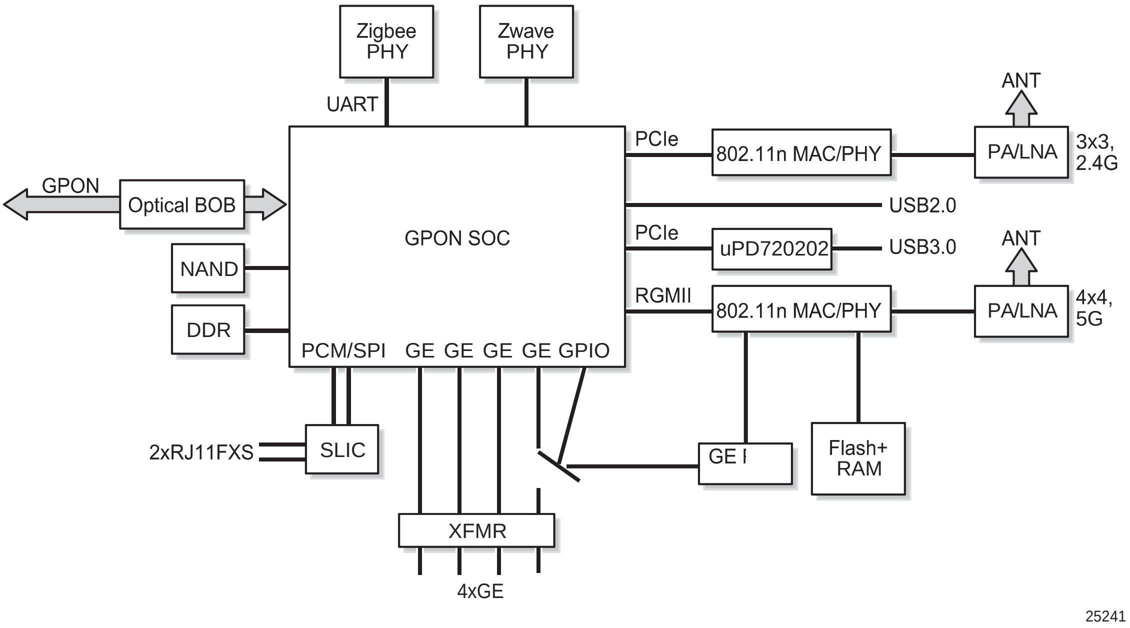
Mounting method	Temperature range and humidity	Altitude
On desk or shelf	Operating: 23°F to 113°F (-5°C to 45°C) ambient temperature 5% to 85% relative humidity, non-condensing	Contact your Nokia technical support representative for more information
	Storage: -4°F to 158°F (-20°C to 70C)	

5.7 A-240Z-A functional blocks

A-240Z-A CPEs are single-residence CPEs that support Wireless (Wi-Fi) service. Wi-Fi service on these CPEs is compliant with the IEEE 802.11 standard. In addition to the Wi-Fi service, these CPEs transmit Ethernet packets to four RJ-45 Ethernet ports and voice traffic to two RJ-11 POTS ports. These CPEs also feature USB and power connectors.

Figure 9 shows the functional blocks for A-240Z-A CPE.

Figure 9 **Single-residence Wi-Fi CPE with Gigabit Ethernet and POTS and without RF video**



5.8 A-240Z-A standards compliance

A-240Z-A CPEs are compliant with the following standards:

- IEEE 802.1D (QoS), 802.1p (bridging), 802.1q (VLAN)
- IEEE 802.3 (2012) (Ethernet standard)
- IEEE 802.11ac 4x4 (WiFi 5G) and 802.11b/g/n 2x2 (WiFi 2.4G)
- G.711, G.722, G.723, G.726, G.729 A, B (voice)
- ITU-T 1.552 for POTS ports

Figure 10 shows the US safety label for the A-240Z-A CPE.

Figure 10 **A-240Z-A US safety label**

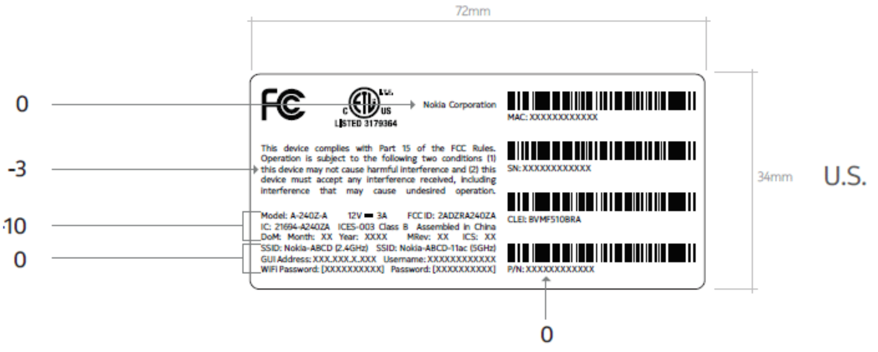

72mm
0
-3
·10
0
FC
c US
LISTED 3179364
Nokia Corporation
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions (1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.
Model: A-240Z-A 12V ▬ 3A FCC ID: 2ADZRA240ZA
IC: 21694-A240ZA ICES-003 Class B Assembled in China
DoM: Month: XX Year: XXXX MRev: XX ICS: XX
SSID: Nokia-ABCD (2.4GHz) SSID: Nokia-ABCD-11ac (5GHz)
GUI Address: XXX.XXX.X.XXX Username: XXXXXXXXXXXX
WIFI Password: [XXXXXXXXXX] Password: [XXXXXXXXXX]
MAC: XXXXXXXXXXXX
SN: XXXXXXXXXXXX
CLEI: BVMF510BRA
P/N: XXXXXXXXXXXX
0
34mm
U.S.

Figure 11 shows the European (EU) safety label for the A-240Z-A CPE.

Figure 11 **A-240Z-A European (EU) safety label**

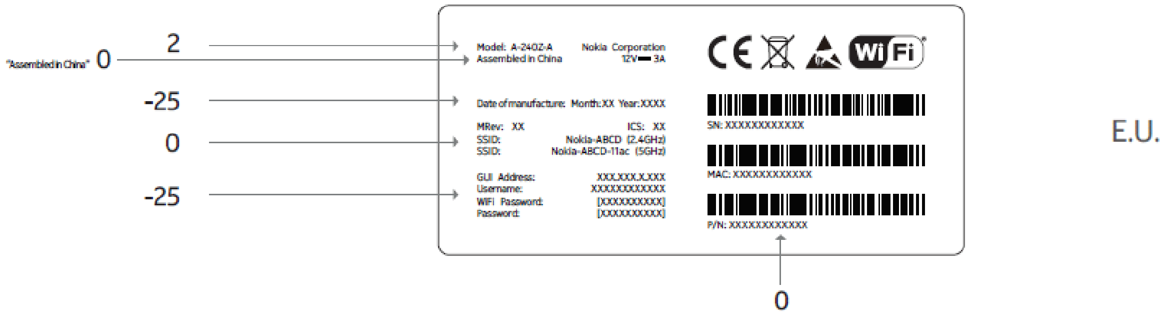
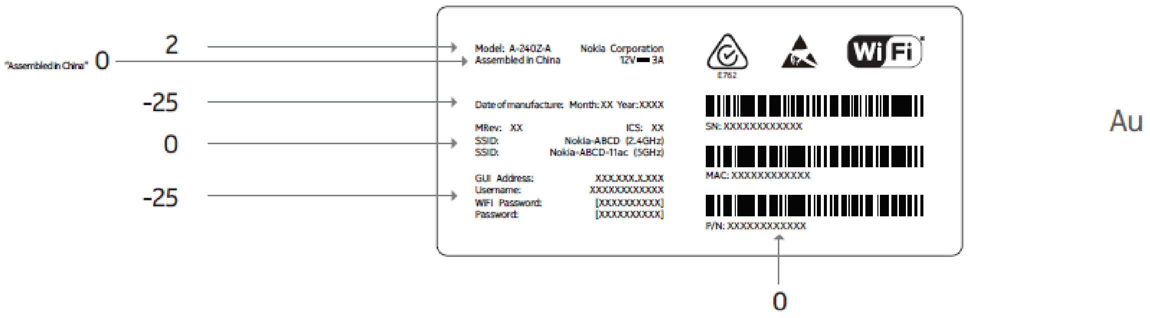
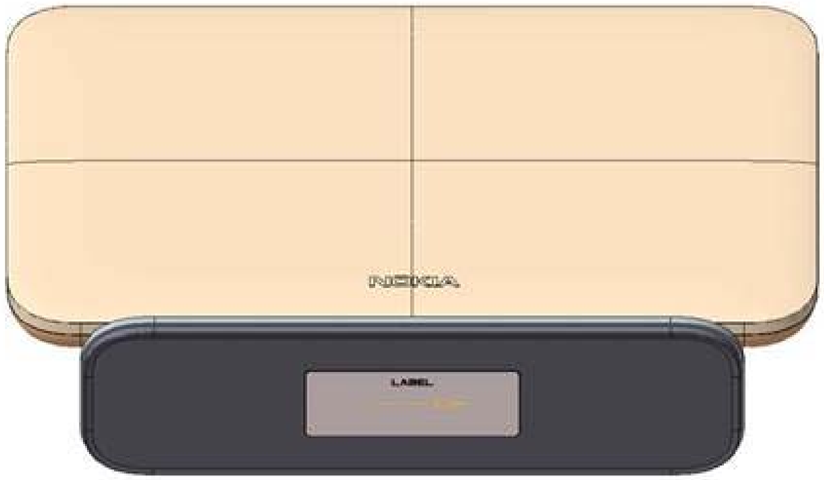


Figure 12 shows the Australian (AU) safety label for the A-240Z-A CPE.

Figure 12 **A-240Z-A Australian (AU) safety label**



A-240Z-A Label location



5.8.1 Responsible party

Table 11 lists the party in the US responsible for this CPE.

Table 11 **Responsible party contact information**

Legal Company name	Nokia USA Inc.
Address	2301 SUGAR BUSH RD. STE 300, RALEIGH,NC 27612
Phone, Fax	+1 919 850 6000

5.8.2 Energy-related products standby and off modes compliance

Hereby, Nokia declares that the A-240Z-A CPEs 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 A-240Z-A CPES qualify as equipment with high network availability (HiNA) functionality. Since the main purpose of A-240Z-A CPEs 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 "A-240Z-A interfaces and interface capacity" in this chapter.

For information about power consumption, see "A-240Z-A detailed specifications" in this chapter.

5.8.3 Canadian Additional Statement:

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions:
(1) This device may not cause interference; and
(2) This device must accept any interference, including interference that may cause undesired operation of the device.
Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions
suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est
susceptible d'en compromettre le fonctionnement.

To satisfy IC RF exposure requirements, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation.
To ensure compliance, operations at closer than this distance is not recommended.
Les antennes installées doivent être situées de facon à ce que la population ne puisse
y être exposée à une distance de moin de 20 cm. Installer les antennes de facon à ce
que le personnel ne puisse approcher à 20 cm ou moins de la position centrale de l'
antenne. La FCC des éltats-unis stipule que cet appareil doit être en tout temps éloigné d'au moins 20 cm des personnes pendant son fonctionnement.

i. the device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;4
les dispositifs fonctionnant dans la bande de 5 150 à 5 250 MHz sont réservés uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;

ii. for devices with detachable antenna(s), the maximum antenna gain permitted for devices in the bands 5250-5350 MHz and 5470-5725 MHz shall be such that the equipment still complies with the e.i.r.p. limit;
pour les dispositifs munis d'antennes amovibles, le gain maximal d'antenne permis pour les dispositifs utilisant les bandes de 5 250 à 5 350 MHz et de 5 470

à 5 725 MHz doit être conforme à la limite de la p.i.r.e;

iii. for devices with detachable antenna(s), the maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies with the e.i.r.p. limits as appropriate; and
pour les dispositifs munis d'antennes amovibles, le gain maximal d'antenne permis (pour les dispositifs utilisant la bande de 5 725 à 5 850 MHz) doit être conforme à la limite de la p.i.r.e. spécifiée pour l'exploitation point à point et l'exploitation non point à point, selon le cas;

iv. where applicable, antenna type(s), antenna models(s), and worst-case tilt angle(s) necessary to remain compliant with the e.i.r.p. elevation mask requirement set forth in section 6.2.2.3 shall be clearly indicated.
les pires angles d'inclinaison nécessaires pour rester conforme à l'exigence de la p.i.r.e. applicable au masque d'élévation, et énoncée à la section 6.2.2 3), doivent être clairement indiqués.

5.8.4 FCC statement

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

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

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

5.9 A-240Z-A special considerations

This section describes the special considerations for A-240Z-A CPEs.

5.9.1 Wi-Fi service

A-240Z-A CPEs 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 CPE complies with the IEEE 802.11 standards, which the Wi-Fi Alliance defines as the basis for Wi-Fi technology.

5.9.1.1 Wi-Fi standards and certifications

The Wi-Fi service on A-240Z-A CPEs supports the following IEEE standards and Wi-Fi Alliance certifications:

- compliant with IEEE 802.11 standards
- certified for IEEE 802.11b/g/n standards
- WPA support including WPA-PSK
- certified for WPA2-Personal and WPA2-Enterprise

5.9.1.2 Wi-Fi GUI features

A-240Z-A CPEs have HTML-based Wi-Fi configuration GUIs.

5.9.2 A-240Z-A CPE considerations and limitations

Table 12 lists the considerations and limitations for A-240Z-A CPEs.

Table 12 **A-240Z-A CPE considerations and limitations**

Considerations and limitations
Call History Data collection (CPECALLHST) 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 CPE 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-CPE 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 CPE 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: CCW, Call Hold and Warmline

6 Install an A-240Z-A CPE

6.1 Purpose

This chapter provides the steps to install an A-240Z-A CPE.

6.2 General

The steps listed in this chapter describe mounting and cabling for an A-240Z-A CPE.

6.3 Prerequisites

You need the following items before beginning the installation:

- all required cables

6.4 Recommended tools

You need the following tools for the installation:

- #2 Phillips screwdriver
- 1/4 in. (6 mm) flat blade screwdriver
- wire strippers
- RJ-45 cable plug crimp tool
- voltmeter or multimeter
- drill and drill bits
- paper clip

6.5 Safety information

Read the following safety information before installing the unit.

Danger 1 — 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.

Danger 2 — 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.

Danger 3 — Always contact the local utility company before connecting the enclosure to the utilities.

Caution — Keep indoor CPEs out of direct sunlight. Prolonged

exposure to direct sunlight can damage the unit.

Note 1 — Observe the local and national laws and regulations that may be applicable to this installation.

Note 2 — Observe the following:

- The CPE 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 CPE must be installed by qualified service personnel.
- Indoor CPEs must be installed with cables that are suitably rated and listed for indoor use.
- See the detailed specifications in the A-240Z-A unit data sheet for the temperature ranges for these CPEs.

6.6 Procedure

Use this procedure to install an A-240Z-A CPE.

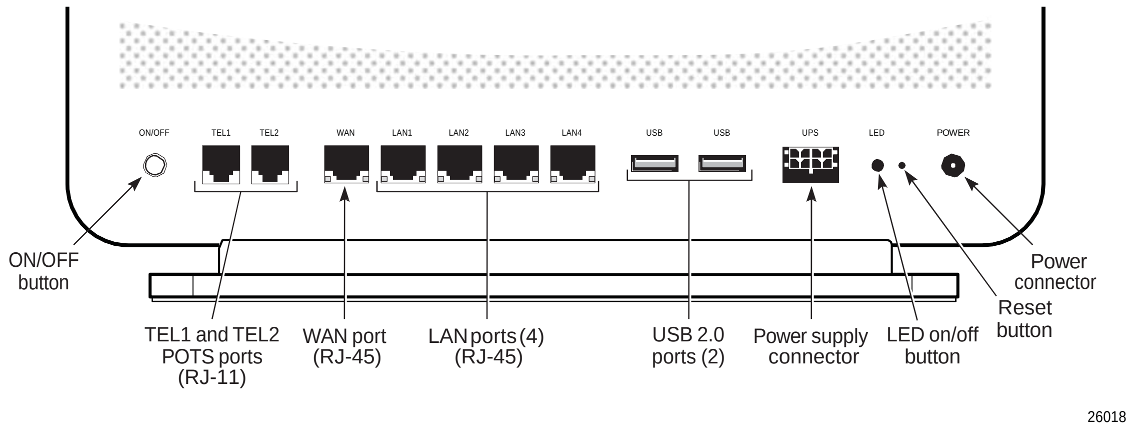
1 Place the CPE unit on a flat surface, such as a desk or shelf.

Note — The A-240Z-A cannot be stacked with another CPE or with other equipment. The CPE 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 Figures 13.

Figure 13 **A-240Z-A CPE connections**



3 Connect the Ethernet cables to the RJ-45 ports; see Figure 13 for the location of the RJ-45 ports.

4 Connect the WAN cable to the RJ-45 WAN port; see Figure 13 for the location of the RJ-45 WAN port.

5 Route the POTS cables directly to the RJ-11 ports as per local practices.

The POTS port to the left is labeled TEL1 for Line 1 while the port on the right is labeled TEL2 for Line 2, as shown in Figure 13.

6 Connect the power cable to the power connector.

7 If applicable, install the power supply according to manufacturer specifications.

Note — Observe the following:

- Units must be powered by a Listed or CE approved and marked limited power source power supply with a minimum output rate of 12 V dc, 1.25 A.

8 Power up the CPE unit by using the power switch.

9 Verify the CPE LEDs and voltage status; see the *7368 Hardware and Cabling Installation Guide*.

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

11 If necessary, reset the CPE.

i Locate the Reset button on an A-240Z-A CPE as shown in Figure 13.

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

12 STOP. This procedure is complete.

7 Replace an A-240Z-A CPE

7.1 Purpose

This chapter provides the steps to replace an A-240Z-A CPE.

7.2 General

The steps listed in this chapter describe mounting and cabling for an A-240Z-A CPE.

7.3 Prerequisites

You need the following items before beginning the installation:

- all required cables

7.4 Recommended tools

You need the following tools for replacing the CPE:

- #2 Phillips screwdriver
- 1/4 in. (6 mm) flat blade screwdriver
- wire strippers
- RJ-45 cable plug crimp tool
- voltmeter or multimeter
- drill and drill bits

7.5 Safety information

Read the following safety information before replacing the unit.

Danger 1 — 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.

Danger 2 — 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.

Danger 3 — Always contact the local utility company before connecting the enclosure to the utilities.

Caution — Keep indoor CPEs out of direct sunlight. Prolonged

exposure to direct sunlight can damage the unit.

Note 1 — Observe the local and national laws and regulations that may be applicable to this installation.

Note 2 — Observe the following:

- The CPE 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 CPE must be installed by qualified service personnel.
- Indoor CPEs must be installed with cables that are suitably rated and listed for indoor use.
- See the detailed specifications in the A-240Z-A unit data sheet for the CPE temperature ranges for these CPEs.

7.6 Procedure

Use this procedure to replace an A-240Z-A CPE.

1 Deactivate the CPE services at the P-OLT.

i Use the RTRV-CPE command to verify the CPE status and th associated services. Record the serial number of the CPE displayed in the command output.

Example:

```
RTRV-CPE::CPE-1-1-1-1-1;
```

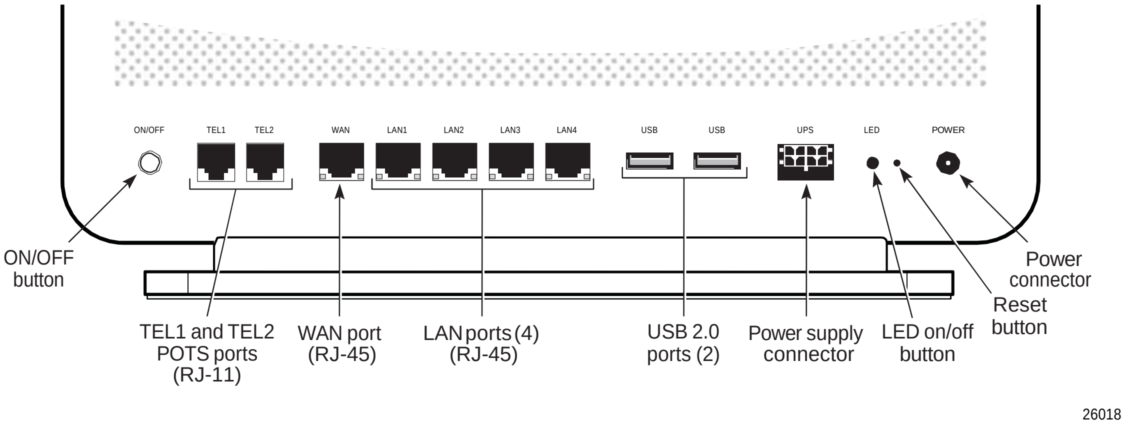
ii If the CPE is in service, place the CPE in OOS state.

Example:

```
ED-CPE::CPE-1-1-1-1-1;
```

2 Power down the unit by using the on/off power switch. See Figure 14 for the connections on the A-240Z-A CPE.

Figure 14 **A-240Z-A CPE connections**



3 Disconnect the POTS, WAN, Ethernet, and power cables from the CPE; see Figure 14 for the connector locations on the A-240Z-A CPE.

4 If applicable, disconnect the UPS.

5 Replace the CPE with the new unit. The CPE can be placed on any flat surface, such as a desk or shelf.

6 Connect the Ethernet cables directly to the RJ-45 ports; see Figure 14 for the location of the RJ-45 ports.

7 Connect the WAN cable directly to the RJ-45 port; see Figure 14 for the location of the RJ-45 WAN port.

8 Connect the POTS cables directly to the RJ-11 ports as per local practices; see Figure 14 for the location of the RJ-11 ports.

The RJ-11 port to the left is labeled TEL1 for Line 1 while the port on the right is labeled TEL2 for Line 2.

9 Connect the power cable to the power connector.

10 If applicable, install the power supply according to manufacturer specifications.

Note — Observe the following:

- Units must be powered by a Listed or CE approved and marked limited power source power supply with a minimum output rate of 12 V dc, 1.25 A.

11 Power up the unit by using the power switch.

12 Verify the CPE LEDs and voltage status; see the *7368 Hardware and Cabling Installation Guide*.

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

14 If necessary, reset the CPE.

i Locate the Reset button on an A-240Z-A CPE as shown in Figure 14.

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

15 STOP. This procedure is complete.

8 Configure an A-240Z-A CPE

8.1 General

Please refer to the configuration information provided with your OLT for the software configuration procedure for an A-240Z-A CPE.

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

8.2 GUI configuration

Use the procedures below to use the web-based GUI for the A-240Z-A.

The A-240Z-A is used as an Ethernet gateway to connect devices in the home to the Internet. The GUI provides a variety of features for the home network including routing and firewall capability. By using the GUI, 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.

8.2.1 Login

Use the procedure below to login to the web-based GUI for the A-240Z-A.

Procedure 6 Login to web-based GUI

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

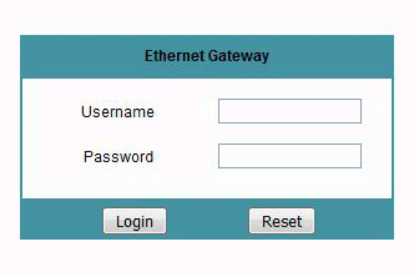
The login window appears.

The default gateway IP address is http://192.168.1.1. You can connect to this IP address using your web browser after connecting your PC to one of Ethernet ports of the CPE. The static IP address of your PC must be in the same 192.168.1.x subnet as the CPE.

2 Enter your username and password in the Log in window, as shown in Figure 15.

The default user name is admin. The default password is a random number, which is included in the CPE kit.

Figure 15 **Web login window**



Caution — Pressing the Reset button for less than 10 seconds reboots the CPE; pressing the Reset button for 10 seconds resets the CPE to the factory defaults.

Note — If you forget the current username and password, press the reset button for 5 s and the default values for the username and password will be recovered at startup.

3 Click Login. The Device Information screen appears.

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 CPE password.

To increase password security, use a minimum of 10 characters, consisting of a mix of numbers and upper and lower case letters.

4 STOP. This procedure is complete.

8.2.2 Device and connection status

A-240Z-A CPEs support the retrieval of a variety of device and connection information, including:

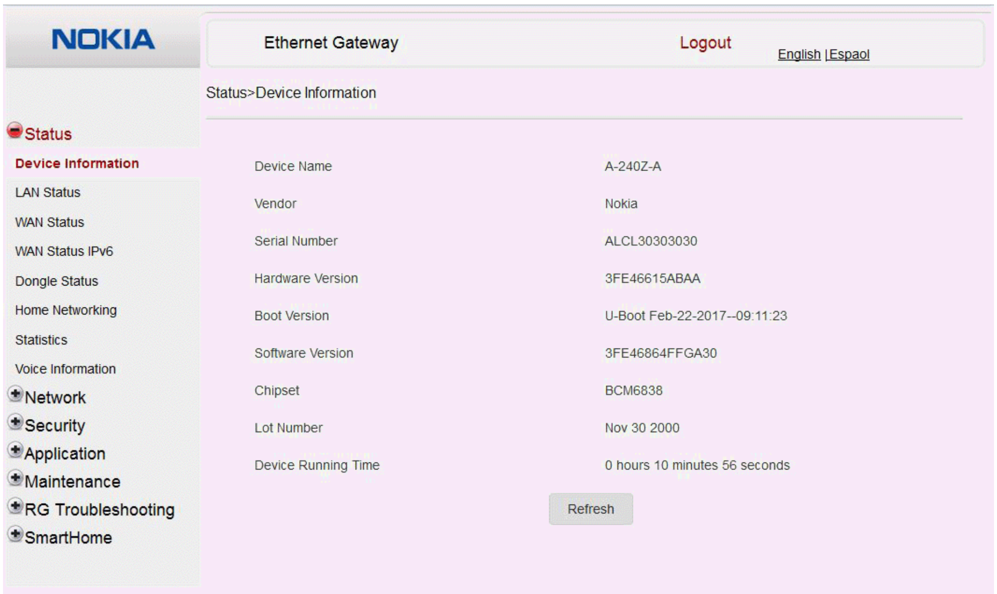
- device information
- LAN status

- WAN status
- WAN status IPv6
- dongle status
- home networking information
- statistics
- voice information

Procedure 7 Device information retrieval

1 Select Status > Device Information from the top-level menu in the Ethernet Gateway window, as shown in Figure 16.

Figure 16 **Device Information window**



Device Name	A-240Z-A
Vendor	Nokia
Serial Number	ALCL30303030
Hardware Version	3FE46615ABAA
Boot Version	U-Boot Feb-22-2017--09:11:23
Software Version	3FE46864FFGA30
Chipset	BCM6838
Lot Number	Nov 30 2000
Device Running Time	0 hours 10 minutes 56 seconds

Table 13 describes the fields in the Device Information window.

Table 13 **Device Information parameters**

Field	Description
Device Name	Name on the CPE
Vendor	Name of the vendor
Serial Number	Serial number of the CPE
Hardware version	Hardware version of the CPE

(1 of 2)

Field	Description
Boot version	Boot version of the CPE
Software version	Software version of the CPE
Chipset	Chipset of the CPE
Lot Number	Production date of the CPE
Device Running Time	Amount of time the device has run since last reset in hours, minutes, and seconds

(2 of 2)

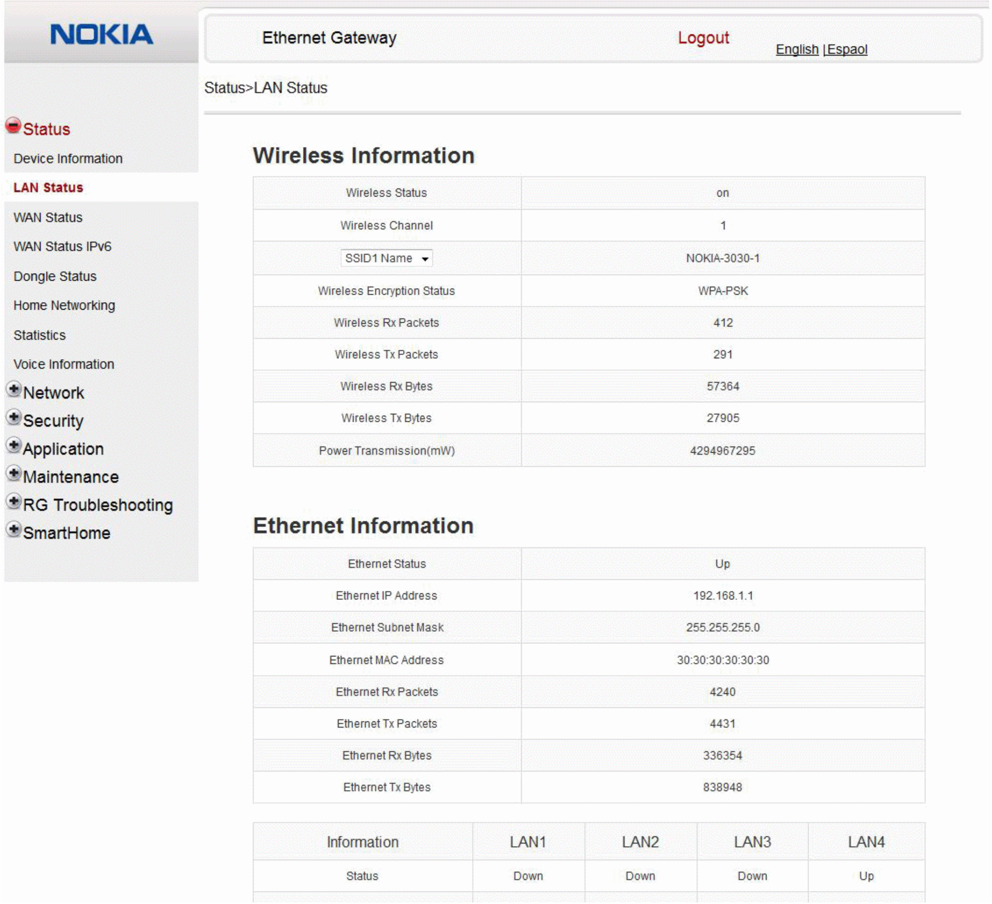
2 Click Refresh to update the displayed information.

3 STOP. This procedure is complete.

Procedure 8 LAN status retrieval

1 Select Status > LAN Status from the top-level menu in the Ethernet Gateway window, as shown in Figure 17.

Figure 17 **LAN status window**



Wireless Information

Wireless Status	on
Wireless Channel	1
SSID1 Name	NOKIA-3030-1
Wireless Encryption Status	WPA-PSK
Wireless Rx Packets	412
Wireless Tx Packets	291
Wireless Rx Bytes	57364
Wireless Tx Bytes	27905
Power Transmission(mW)	4294967295

Ethernet Information

Ethernet Status	Up
Ethernet IP Address	192.168.1.1
Ethernet Subnet Mask	255.255.255.0
Ethernet MAC Address	30:30:30:30:30:30
Ethernet Rx Packets	4240
Ethernet Tx Packets	4431
Ethernet Rx Bytes	336354
Ethernet Tx Bytes	838948

Information	LAN1	LAN2	LAN3	LAN4
Status	Down	Down	Down	Up

Table 14 describes the fields in the LAN status window.

Table 14 **LAN status parameters**

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

(1 of 2)

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

(2 of 2)

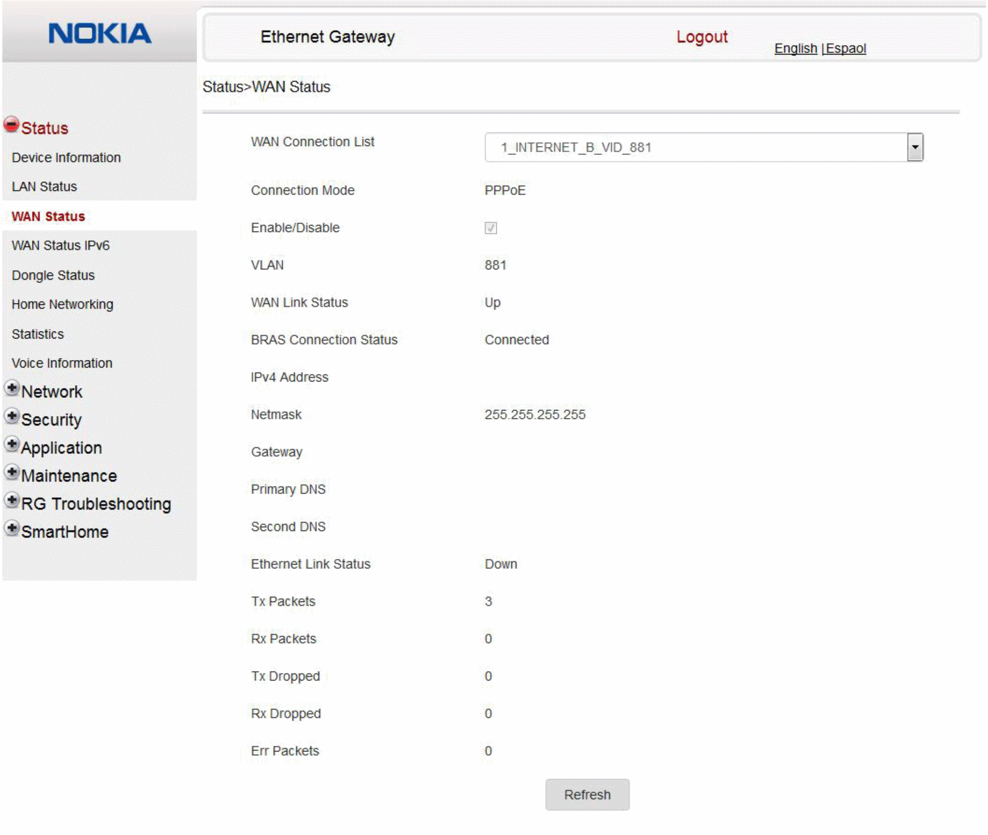
2 Click Refresh to update the displayed information.

3 STOP. This procedure is complete.

Procedure 9 WAN status retrieval

1 Select Status > WAN Status from the top-level menu in the Ethernet Gateway window, as shown in Figure 18.

Figure 18 **WAN status window**



Status>WAN Status

WAN Connection List	1_INTERNET_B_VID_881
Connection Mode	PPPoE
Enable/Disable	☑
VLAN	881
WAN Link Status	Up
BRAS Connection Status	Connected
IPv4 Address	
Netmask	255.255.255.255
Gateway	
Primary DNS	
Second DNS	
Ethernet Link Status	Down
Tx Packets	3
Rx Packets	0
Tx Dropped	0
Rx Dropped	0
Err Packets	0

Table 15 describes the fields in the WAN status window.

Table 15 **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 the WAN connection
VLAN	VLAN ID

(1 of 2)

Field	Description
WAN Link Status	Whether the WAN link is up or down
BRAS Connection Status	Whether the BRAS is connected or disconnected
IPv4 Address	IPv4 address
Netmask	Netmask
Gateway	IPv4 gateway address
Primary DNS	Primary Domain Name Server
Second DNS	Secondary Domain Name Server
Ethernet 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 of 2)

2 Click Refresh to update the displayed information.

3 STOP. This procedure is complete.

Procedure 10 WAN status IPv6 retrieval

1 Select Status > WAN Status IPv6 from the top-level menu in the Ethernet Gateway window, as shown in Figure 19.

Figure 19 WAN status IPv6 window

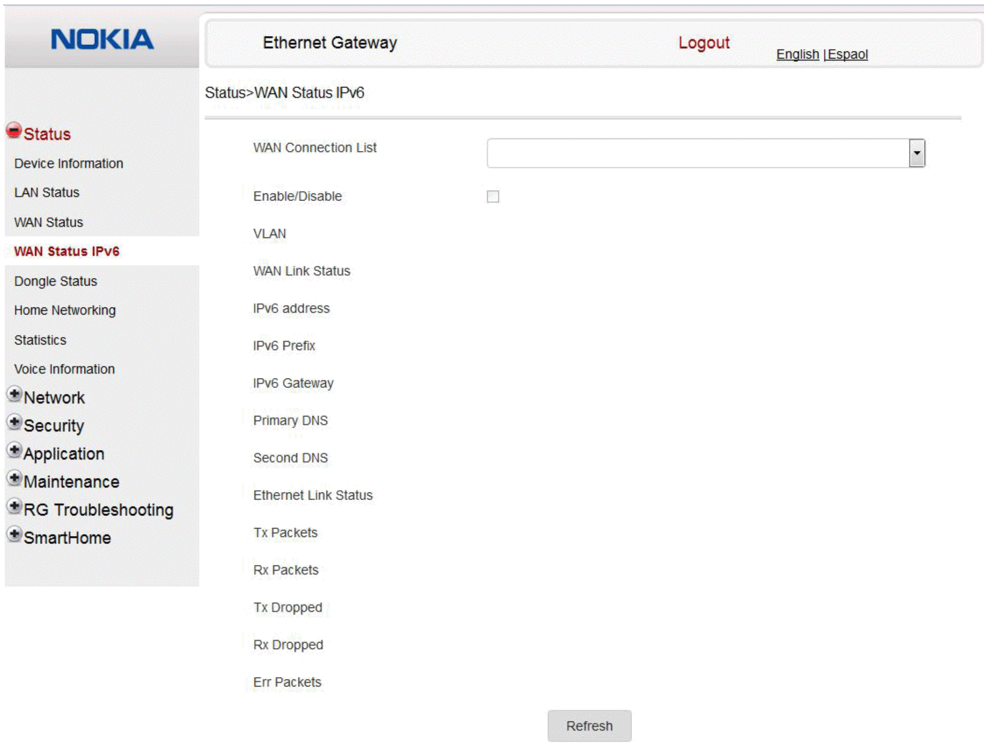


Table 16 describes the fields in the WAN status IPv6 window.

Table 16 WAN status IPv6 parameters

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

(1 of 2)

Field	Description
Primary DNS	Primary Domain Name Server
Second DNS	Secondary Domain Name Server
Ethernet 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 of 2)

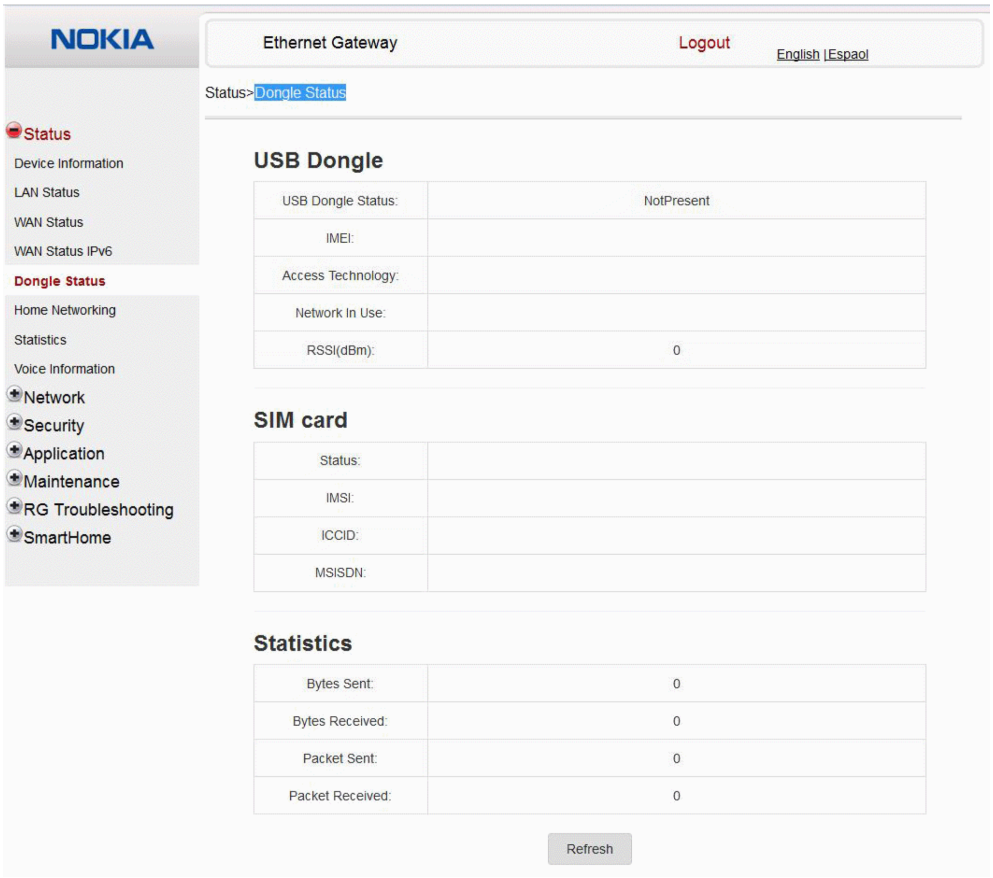
2 Click Refresh to update the displayed information.

3 STOP. This procedure is complete.

Procedure 11 Dongle status retrieval

1 Select Status > Dongle Status from the top-level menu in the Ethernet Gateway window, as shown in Figure 20.

Figure 20 **Dongle Status window**



USB Dongle

USB Dongle Status:	NotPresent
IMEI:	
Access Technology:	
Network In Use:	
RSSI(dBm):	0

SIM card

Status:	
IMSI:	
ICCID:	
MSISDN:	

Statistics

Bytes Sent:	0
Bytes Received:	0
Packet Sent:	0
Packet Received:	0

Table 17 describes the fields in the Dongle Status window.

Table 17 **Dongle Status parameters**

Field	Description
USB Dongle	Displays the USB dongle information: • USB Dongle Status • IMEI • Access Technology • Network in Use • RSSI (dBm)
SIM card	Displays the SIM card information • Status • IMSI • ICCID • MSISDN
Statistics	Displays the number of bytes, sent and received, and the packet sent and received

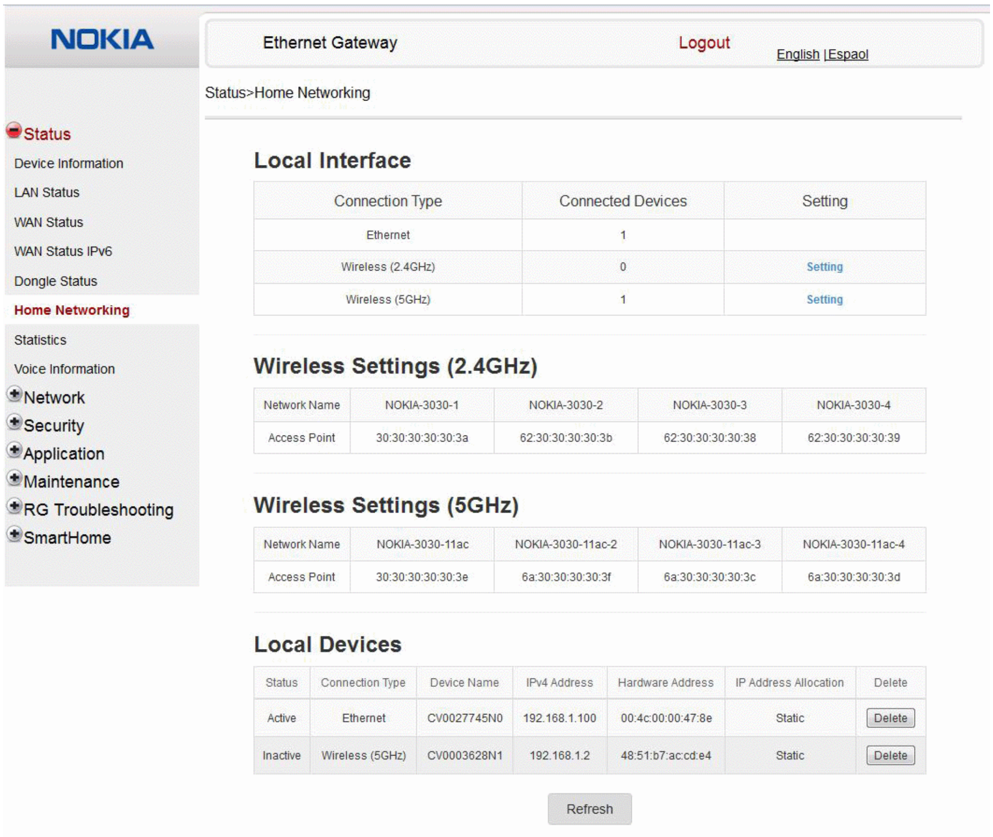
2 Click Refresh to update the displayed information.

3 STOP. This procedure is complete.

Procedure 12 Home networking information retrieval

1 Select Status > Home Networking from the top-level menu in the Ethernet Gateway window, as shown in Figure 21.

Figure 21 **Home networking information window**



Local Interface

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

Wireless Settings (2.4GHz)

Network Name	NOKIA-3030-1	NOKIA-3030-2	NOKIA-3030-3	NOKIA-3030-4
Access Point	30:30:30:30:30:3a	62:30:30:30:30:3b	62:30:30:30:30:38	62:30:30:30:30:39

Wireless Settings (5GHz)

Network Name	NOKIA-3030-11ac	NOKIA-3030-11ac-2	NOKIA-3030-11ac-3	NOKIA-3030-11ac-4
Access Point	30:30:30:30:30:3e	6a:30:30:30:30:3f	6a:30:30:30:30:3c	6a:30:30:30:30:3d

Local Devices

Status	Connection Type	Device Name	IPv4 Address	Hardware Address	IP Address Allocation	Delete
Active	Ethernet	CV0027745N0	192.168.1.100	00:4c:00:00:47:8e	Static	Delete
Inactive	Wireless (5GHz)	CV0003628N1	192.168.1.2	48:51:b7:ac:cd:e4	Static	Delete

Table 18 describes the fields in the Home networking window.

Table 18 **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
Wireless Settings	
Network Name	Name of the wireless network

(1 of 2)

Field	Description
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, and IP address allocation of each connected local device.

(2 of 2)

2 Click Delete to delete a particular local device connection.

3 Click Refresh to update the displayed information.

4 STOP. This procedure is complete.

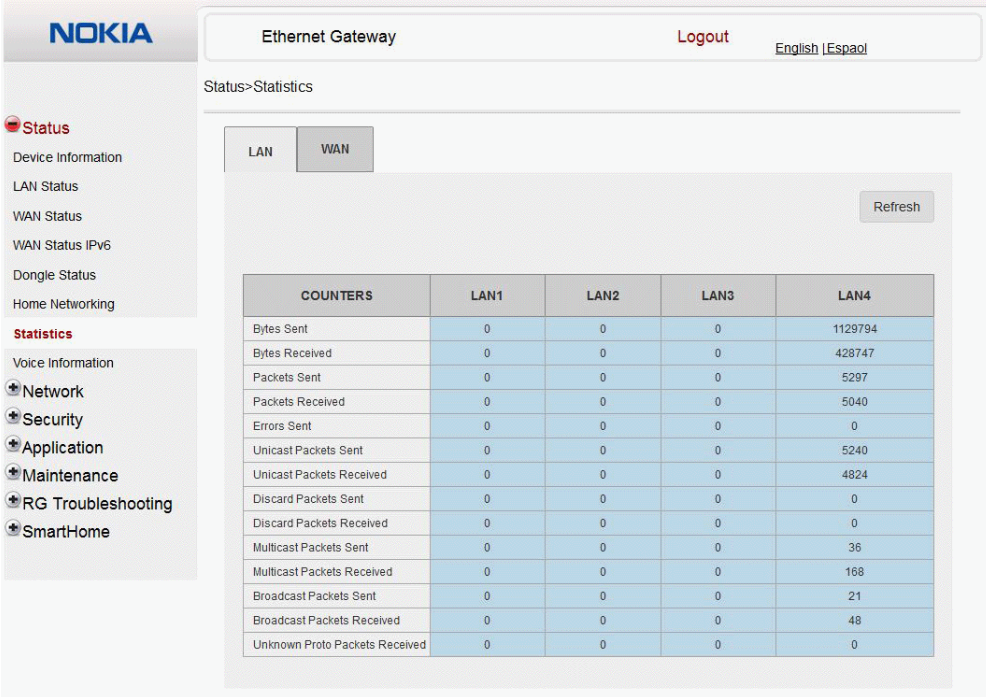
Procedure 13 Statistics retrieval

1 Select Status > Statistics from the top-level menu in the Ethernet Gateway window.

Statistics are available for LAN ports and WLAN ports.

Figure 22 shows the statistics for the LAN ports.

Figure 22 **LAN ports statistics window**



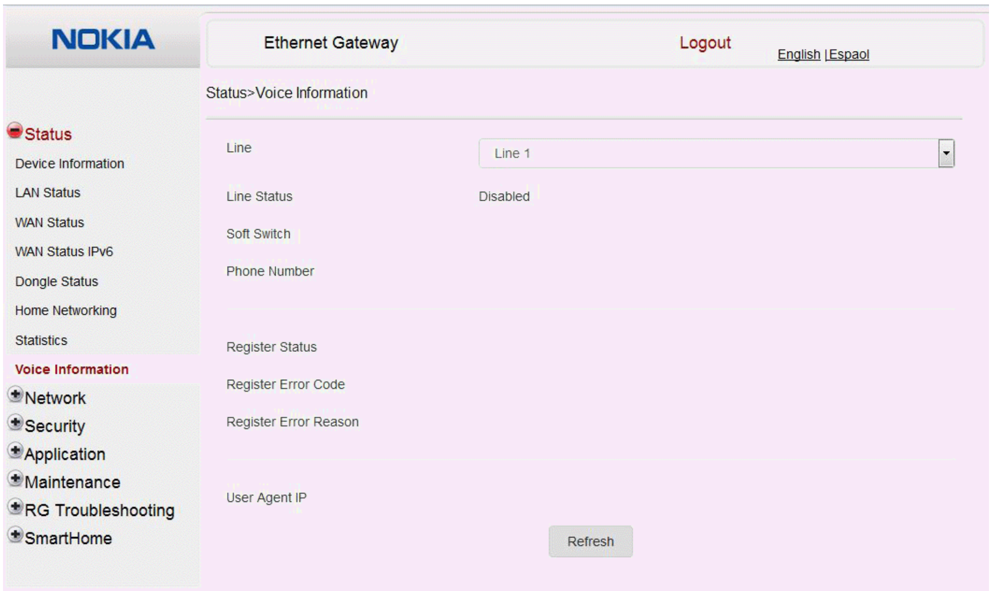
COUNTERS	LAN1	LAN2	LAN3	LAN4
Bytes Sent	0	0	0	1129794
Bytes Received	0	0	0	428747
Packets Sent	0	0	0	5297
Packets Received	0	0	0	5040
Errors Sent	0	0	0	0
Unicast Packets Sent	0	0	0	5240
Unicast Packets Received	0	0	0	4824
Discard Packets Sent	0	0	0	0
Discard Packets Received	0	0	0	0
Multicast Packets Sent	0	0	0	36
Multicast Packets Received	0	0	0	168
Broadcast Packets Sent	0	0	0	21
Broadcast Packets Received	0	0	0	48
Unknown Proto Packets Received	0	0	0	0

2 STOP. This procedure is complete.

Procedure 14 Voice information retrieval

1 Select Status > Voice Information from the top-level menu in the Ethernet Gateway window, as shown in Figure 23.

Figure 23 **Voice Information window**



Line: Line 1

Line Status: Disabled

Soft Switch

Phone Number

Register Status

Register Error Code

Register Error Reason

User Agent IP

Table 19 describes the fields in the Voice Information window.

Table 19 **Voice Information parameters**

Field	Description
Line	Select the POTS line: 1 or 2
Line Status	Status of the selected POTS line: IDLE, Off Hook, or On Hook
Softswitch[1]	Proxy IP address; blank if the line is not registered
Phone number[1]	Phone number configured for the selected telephone line
Register Status	Registration status of the selected POTS port: registered or unregistered
Register Error Code	Error code for the unregistered POTS port
Register Error Reason	Error reason for the unregistered POTS port

Note

[1] This field is only visible at the admin level; it is not visible at the userAdmin level.

2 Click Refresh to update the displayed information.

3 STOP. This procedure is complete.

8.2.3 Network configuration

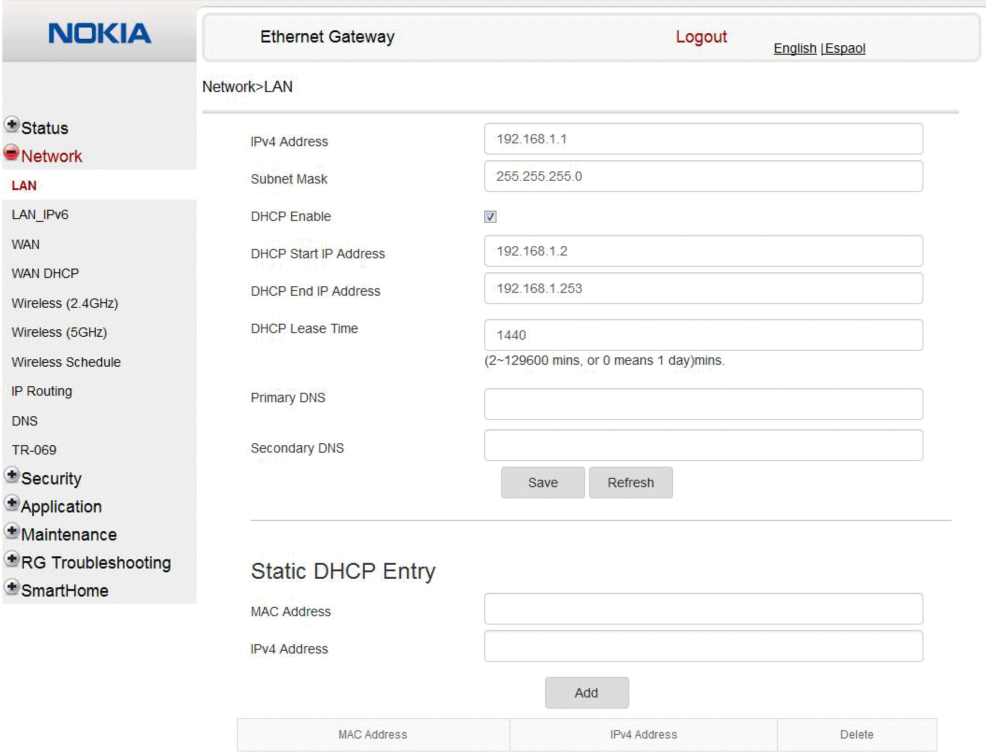
A-240Z-A CPEs also support network configuration, including:

- LAN
- LAN IPv6
- WAN
- WAN DHCP
- Wireless 2.4G
- Wireless 5G
- wireless schedule
- routing
- DNS
- TR-069

Procedure 15 LAN networking configuration

1 Select Network > LAN from the top-level menu in the Ethernet Gateway window, as shown in Figure 24.

Figure 24 **LAN network window**



Network>LAN

IPv4 Address: 192.168.1.1

Subnet Mask: 255.255.255.0

DHCP Enable: ☑

DHCP Start IP Address: 192.168.1.2

DHCP End IP Address: 192.168.1.253

DHCP Lease Time: 1440

(2~129600 mins, or 0 means 1 day)mins.

Primary DNS:

Secondary DNS:

Static DHCP Entry

MAC Address:

IPv4 Address:

Table 20 describes the fields in the LAN network window.

Table 20 **LAN network parameters**

Field	Description
IPv4 Address	IP Address of the CPE
Subnet Mask	Subnet mask of the CPE
DHCP enable	Select this checkbox to enable DHCP
DHCP Start IP Address	Starting DHCP IP address
DHCP End IP Address	Ending DHCP IP address
DHCP Lease Time	DHCP lease time (in min)

(1 of 2)

Field	Description
Primary DNS	Primary domain name server
Secondary DNS	Secondary domain name server
Static DHCP MAC Address	MAC address to associate to the LAN
Static DHCP IP Address	IP address to associate to the bound MAC address

(2 of 2)

2 Configure the LAN.

3 Click Save.

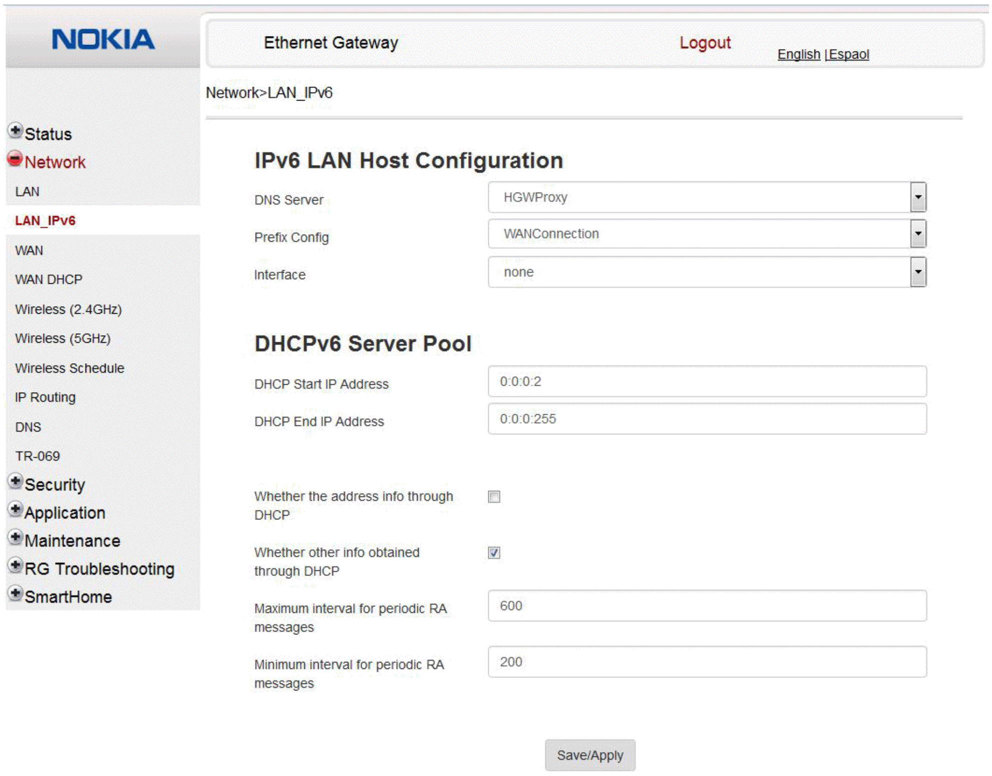
4 Bind a MAC address to the LAN by entering the MAC and IP addresses in the Static DHCP Entry fields and then clicking Add. Repeat for all MAC addresses to be bound.

5 STOP. This procedure is complete.

Procedure 16 LAN IPv6 networking configuration

1 Select Network > LAN_IPv6 from the top-level menu in the Ethernet Gateway window, as shown in Figure 25.

Figure 25 **LAN IPv6 network window**



Network>LAN_IPv6

IPv6 LAN Host Configuration

DNS Server	HGWProxy
Prefix Config	WANConnection
Interface	none

DHCPv6 Server Pool

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

Table 21 describes the fields in the LAN IPv6 network window.

Table 21 **LAN IPv6 network parameters**

Field	Description
DNS Server	Choose a DNS server from the drop-down menu.
prefix config	Choose a prefix config option from the drop-down menu, either WANConnection (prefix will be obtained from the WAN) or Static (enables you to enter the prefix).
prefix	This field appears if you selected the “Static” option for the “prefix config” field. Type a connection.
Interface	This field appears if you selected the Wan Connection option for the “prefix config” field. Choose a WAN connection interface from the drop-down menu.

(1 of 2)

Field	Description
DHCP Start IP Address	Enter the starting DHCP IP address.
DHCP End IP Address	Enter the ending DHCP IP address.
Whether the address info through DCHP	Select this checkbox to enable address information retrieval through DHCP.
Whether other info obtained through DHCP	Select this checkbox to enable retrieval of other information through DHCP.
Maximum interval for periodic RA messages	Enter the maximum interval (in seconds) for periodic Router Advertisement messages. The interval range is from 4 to 1800.
Minimum interval for periodic RA messages	Enter the minimum interval (in seconds) for periodic Router Advertisement messages. The interval range is from 4 to 1800.

(2 of 2)

2 Choose a DNS server, prefix config, and interface.

3 Select or enter the DHCP configuration information.

4 Enter the maximum and minimum intervals for RA messages.

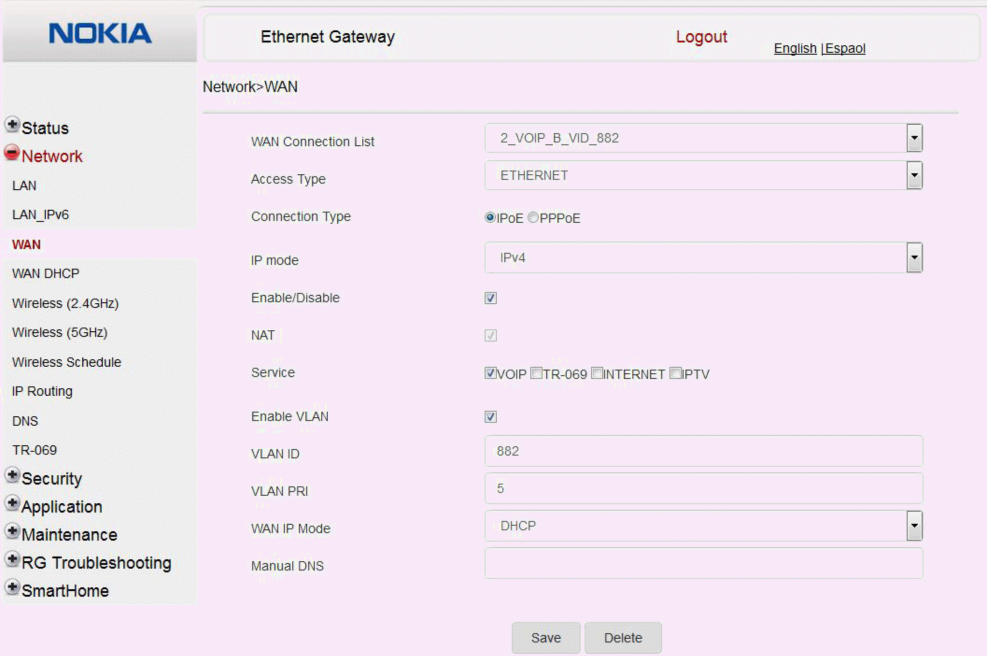
5 Click Save/Apply.

6 STOP. This procedure is complete.

Procedure 17 WAN networking configuration

1 Select Network > WAN from the top-level menu in the Ethernet Gateway window, as shown in Figure 26.

Figure 26 **WAN network window**



Network>WAN

WAN Connection List: 2_VOIP_B_VID_882

Access Type: ETHERNET

Connection Type: ● IPoE ○ PPPoE

IP mode: IPv4

Enable/Disable: ☑

NAT: ☑

Service: ☑ VOIP □ TR-069 □ INTERNET □ IPTV

Enable VLAN: ☑

VLAN ID: 882

VLAN PRI: 5

WAN IP Mode: DHCP

Manual DNS:

Table 22 describes the fields in the WAN network window.

Table 22 **WAN network parameters**

Field	Description
WAN Connection List	Choose a WAN connection from the drop-down menu to set the connection parameters
Access Type	Choose an access type from the drop-down menu
Connection Type	Select a connection type: IPoE or PPPoE
IP Mode	Choose an IP mode from the drop-down menu: IPv4 or IPv6
Enable/Disable	Select this checkbox to enable the WAN connection
NAT	Select this checkbox to enable NAT
Service	Select the checkboxes to enable service types for this connection
Enable VLAN	Select this checkbox to enable VLAN
VLAN ID	Enter the VLAN ID

(1 of 2)

Field	Description
VLAN PRI	Enter the VLAN PRI
WAN IP Mode	Choose an IP mode from the drop-down menu
Manual DNS	Enter a DNS

(2 of 2)

2 Configure a specific WAN connection.

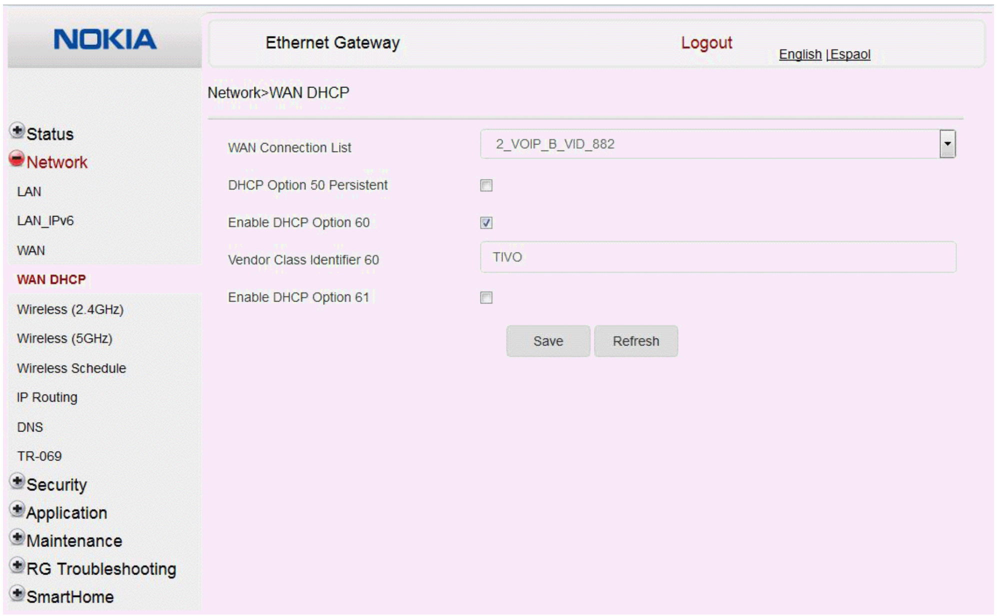
3 Click Save.

4 STOP. This procedure is complete.

Procedure 18 WAN DHCP configuration

1 Select Network > WAN DHCP from the top-level menu in the Ethernet Gateway window, as shown in Figure 27.

Figure 27 **WAN DHCP window**



Network>WAN DHCP

WAN Connection List: 2_VOIP_B_VID_882

DHCP Option 50 Persistent: □

Enable DHCP Option 60: ☑

Vendor Class Identifier 60: TIVO

Enable DHCP Option 61: □

Table 23 describes the fields in the WAN DHCP window.

Table 23 **WAN DHCP parameters**

Field	Description
WAN Connection List	Choose a WAN connection from the drop-down menu
DHCP Option 50 persistent	Select this checkbox to enable DHCP Option 50
Enable DHCP Option 60	Select this checkbox to enable DHCP Option 60 (vendor class identifier)
Vendor Class Identifier 60	Enter the identifier for the vendor class
Enable DHCP Option 61	Select this checkbox to enable DHCP Option 61 (client identifier)

2 Configure a WAN DHCP option.

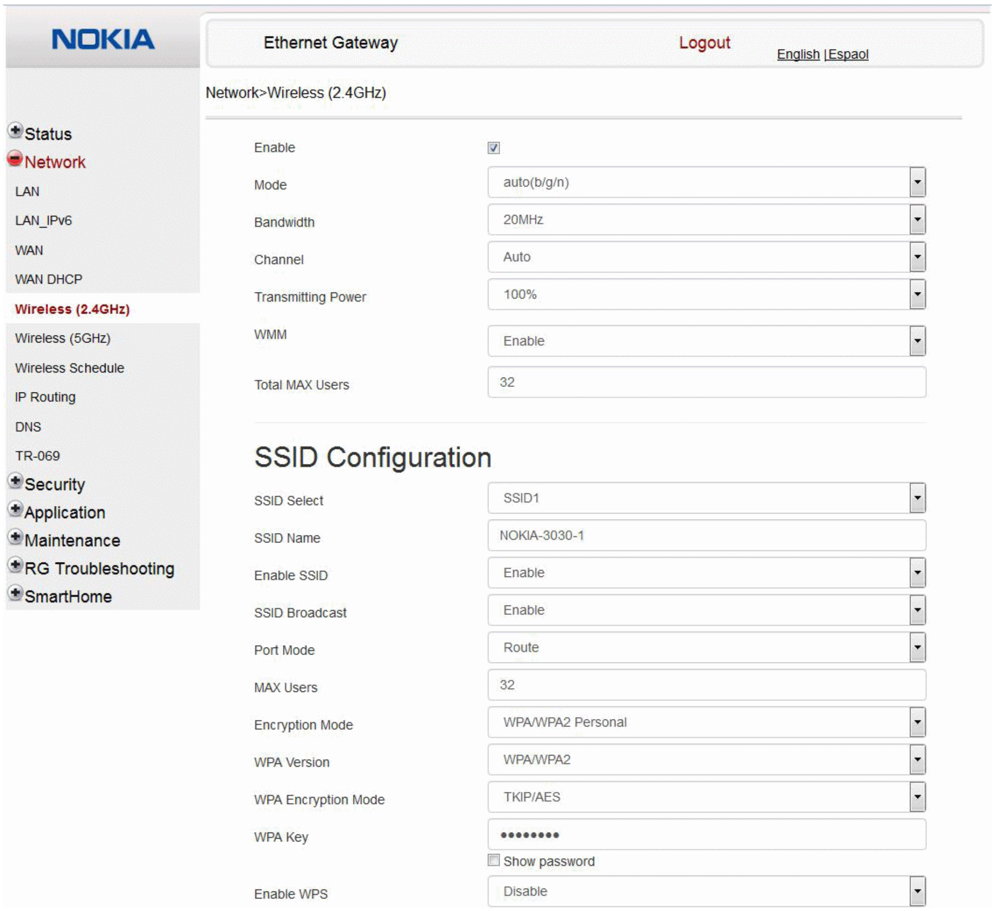
3 Click Save.

4 STOP. This procedure is complete.

Procedure 19 Wireless 2.4G networking configuration

1 Select Network > Wireless 2.4GHz from the top-level menu in the Ethernet Gateway window, as shown in Figure 28.

Figure 28 Wireless 2.4GHz network window



Network>Wireless (2.4GHz)

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

SSID Configuration

SSID Select	SSID1
SSID Name	NOKIA-3030-1
Enable SSID	Enable
SSID Broadcast	Enable
Port Mode	Route
MAX Users	32
Encryption Mode	WPA/WPA2 Personal
WPA Version	WPA/WPA2
WPA Encryption Mode	TKIP/AES
WPA Key	•••••••• □ Show password
Enable WPS	Disable

Table 24 describes the fields in the Wireless 2.4GHz network window.

Table 24 Wireless 2.4GHz network parameters

Field	Description
Enable	Select this checkbox to enable WiFi

(1 of 2)

Field	Description
Mode	Choose a Wi-Fi mode from the drop-down menu: • auto (b/g/n) • b • g • n • b/g
Channel	Choose a channel from the drop-down menu or choose Auto to have the channel automatically assigned
Bandwidth	Choose 20 MHz or 40 MHz from the drop-down menu.
Transmitting Power	Choose the percentage transmitting power from the drop-down menu
WMM	Select this checkbox to enable or disable wireless multi media
Total MAX Users	Enter the total number of MAX users
SSID Select	Choose the SSID from the drop-down menu
SSID Name	Enter the SSID name
Enable SSID	Enable or disable SSID from this drop-down menu
SSID Broadcast	Enable or disable SSID broadcast from this drop-down menu
Port Mode	Choose a port mode from the drop-down menu: • Route • Bridge
Encryption Mode	Choose an encryption mode from the drop-down menu: • OPEN • WEP • WPA/WPA2 Personal • WPA/WPA2 Enterprise
WPA Version	Choose a WPA version from the drop-down menu: • WPA1 • WPA2 • WPA1/WPA2
WPA Encryption Mode	Choose a WPA encryption mode from the drop-down menu: • TKIP • AES • TKIP/AES
WPA Key	Enter the WPA key
Enable WPS	Enable or disable WPS from this drop-down menu
WPS Mode	Select a WPS mode from the drop-down menu: PBC (Push Button Connect) or PIN (Personal Identification Number)

(2 of 2)

2 Configure the WiFi connection.

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

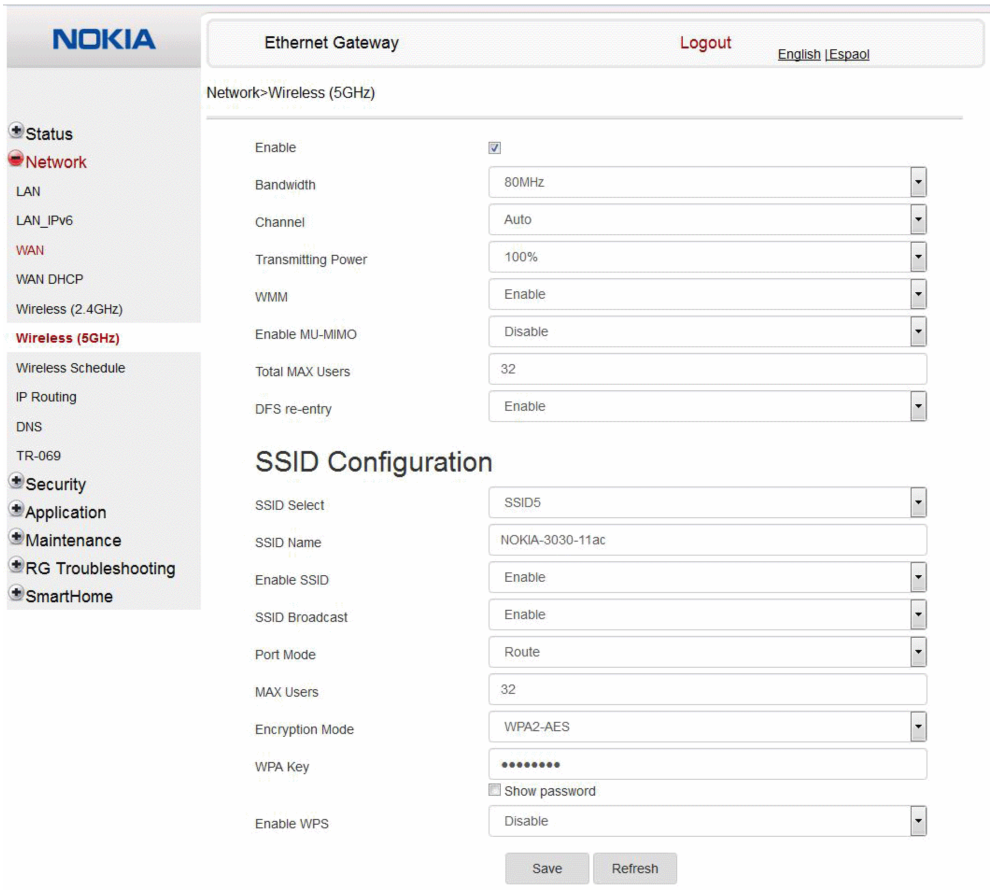
4 Click Save.

5 STOP. This procedure is complete.

Procedure 20 Wireless 5G networking configuration

1 Select Network > Wireless 5GHz from the top-level menu in the Ethernet Gateway window, as shown in Figure 29.

Figure 29 Wireless 5GHz network window



Network>Wireless (5GHz)

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

SSID Configuration

SSID Select	SSID5
SSID Name	NOKIA-3030-11ac
Enable SSID	Enable
SSID Broadcast	Enable
Port Mode	Route
MAX Users	32
Encryption Mode	WPA2-AES
WPA Key	•••••••• □ Show password
Enable WPS	Disable

Table 25 describes the fields in the Wireless 5GHZ network window.

Table 25 Wireless 5GHz network parameters

Field	Description
Enable	Select this checkbox to enable WiFi
Bandwidth	Choose from: • 20 MHz • 40 MHz • 80 MHz
Channel	Choose a channel from the drop-down menu or choose Auto to have the channel automatically assigned
Transmitting Power	Choose a percentage for the transmitting power from the drop-down menu: • Low (20%) • Medium (40%) • High (60%) • Maximum (100%)
WMM	Select this checkbox to enable or disable wireless multi media
Enable MU-MIMO	Choose Enable or disable MU-MIMO from this drop-down menu The default is Enable, which enables users and wireless terminals to communicate with each other. MU-MIMO may decrease Wi-Fi performance for clients who do not support it, in which case Nokia recommends that you choose Disable.
Total MAX Users	Enter the total number of MAX users
DFS re-entry	Select this checkbox to enable or disable DFS re-entry
SSID Select	Choose the SSID from the drop-down menu
SSID Name	Change the name of the selected SSID
Enable SSID	Choose Enable or disable SSID from this drop-down menu
SSID Broadcast	Choose Enable or disable SSID broadcast from this drop-down menu
Port Mode	Choose Route or Bridge from the drop-down menu
MAX Users	Enter the number of MAX users
Encryption Mode	Choose an encryption mode from the drop-down menu: • OPEN • WEP • WPA/WPA2 Personal • WPA/WPA2 Enterprise [1][2]
WPA Key	Enter the WPA key
Enable WPS	Choose Enable or disable WPS from this drop-down menu

Notes

[1] When Encryption Mode is set to “WPA/WPA2 Enterprise”, the following options are no longer available: WPA version, WPA encryption mode, WPA key, Enable WPS, WPS mode.

[2] When Encryption Mode is set to “WPA/WPA2 Enterprise”, the following options become available: Primary RADIUS server, port and password; Secondary RADIUS server, port, and password; RADIUS accounting port.

2 Configure the Wireless connection.

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

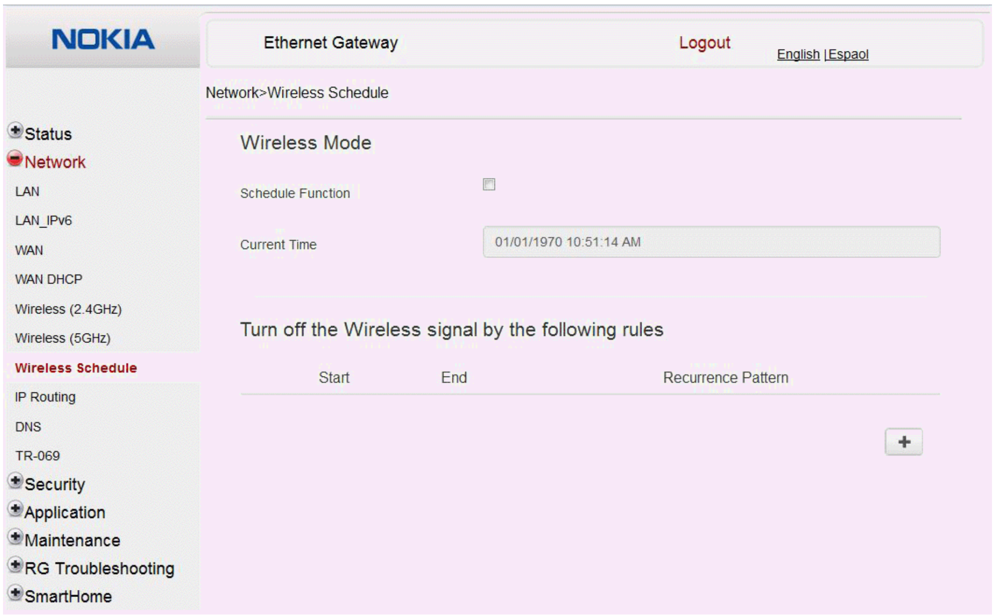
4 Click Save.

5 STOP. This procedure is complete.

Procedure 21 Wireless scheduling

1 Select Network > Wireless Schedule from the top-level menu in the Ethernet Gateway window, as shown in Figure 30.

Figure 30 **Wireless Schedule window**



Network>Wireless Schedule

Wireless Mode

Schedule Function □

Current Time 01/01/1970 10:51:14 AM

Turn off the Wireless signal by the following rules

Start	End	Recurrence Pattern

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

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

A separate panel displays for configuring wireless schedule rules.

4 Enter a start time and end time for the period in which you want the wireless signal off.

5 Choose Everyday or Individual Days from the drop-down menu.

6 If you chose 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.

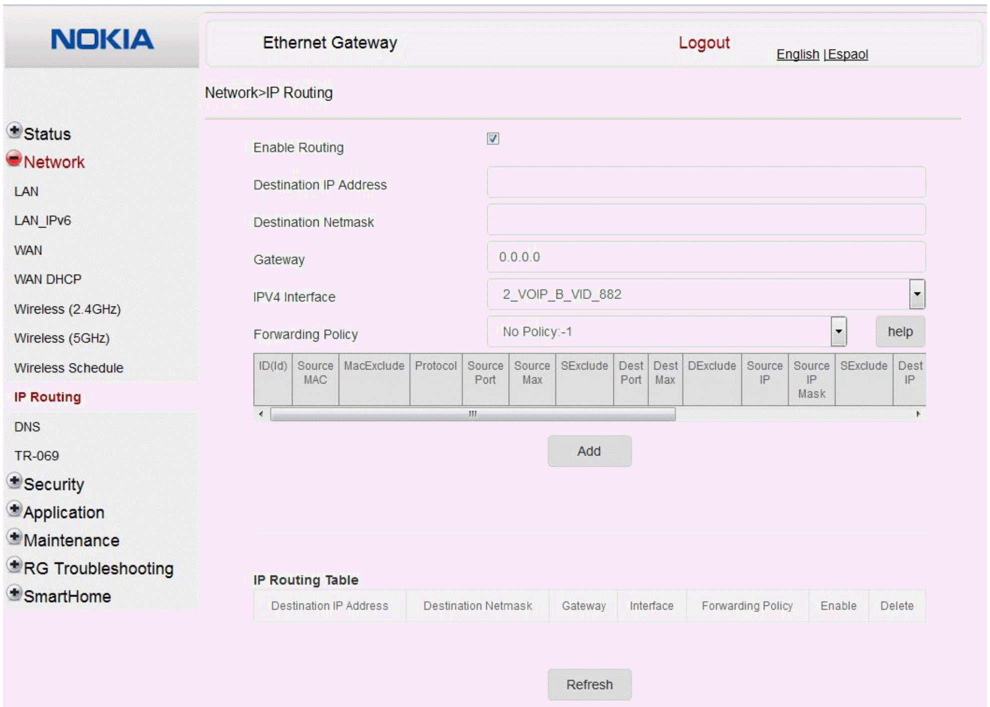
8 Click Save Changes.

9 STOP. This procedure is complete.

Procedure 22 Routing configuration

1 Select Network > Routing from the top-level menu in the Ethernet Gateway window, as shown in Figure 31.

Figure 31 **Routing network window**



Enable Routing	☑
Destination IP Address	
Destination Netmask	
Gateway	0.0.0.0
IPV4 Interface	2_VOIP_B_VID_882
Forwarding Policy	No Policy:-1

ID(Id)	Source MAC	MacExclude	Protocol	Source Port	Source Max	SExclude	Dest Port	Dest Max	DExclude	Source IP	Source IP Mask	SExclude	Dest IP

IP Routing Table

Destination IP Address	Destination Netmask	Gateway	Interface	Forwarding Policy	Enable	Delete

Table 26 describes the fields in the Routing network window.

Table 26 **Routing network parameters**

Field	Description
Enable Routing	Select this checkbox to enable routing
Destination IP Address	Enter the destination IP address
Destination Netmask	Enter the destination network mask
Gateway	Enter the gateway address
IPv4 Interface	Choose a WAN connection previously created in the WAN network window from the drop-down menu
Forwarding Policy	Choose a forwarding policy from the drop-down menu

2 Enter the routing information.

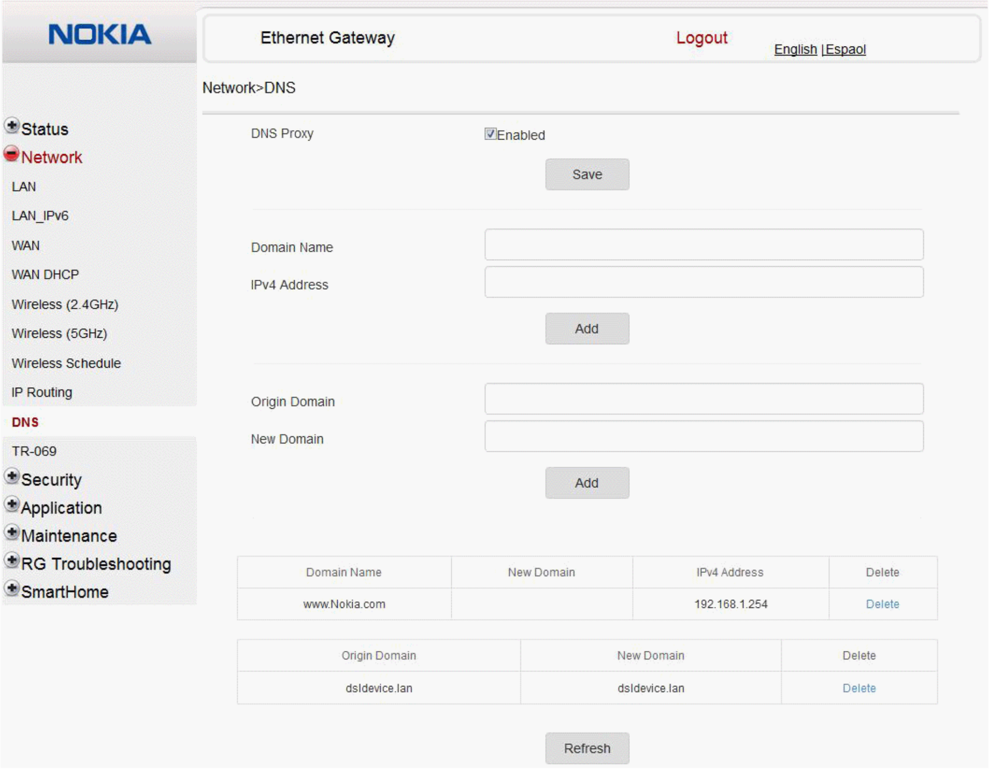
3 Click Add.

4 STOP. This procedure is complete.

Procedure 23 DNS configuration

1 Select Network > DNS from the top-level menu in the Ethernet Gateway window, as shown in Figure 32.

Figure 32 **DNS network window**



Network>DNS

DNS Proxy ☑Enabled

Domain Name

IPv4 Address

Origin Domain

New Domain

Domain Name	New Domain	IPv4 Address	Delete
www.Nokia.com		192.168.1.254	Delete

Origin Domain	New Domain	Delete
dsldevice.lan	dsldevice.lan	Delete

Table 27 describes the fields in the DNS network window.

Table 27 **DNS network parameters**

Field	Description
DNS Proxy	Select this checkbox to enable DNS proxy
Domain Name	Domain name
IPv4 Address	Domain IP address
Origin Domain	Origin domain name
New Domain	New domain name

2 Enter the domain name and IP address and click Add.

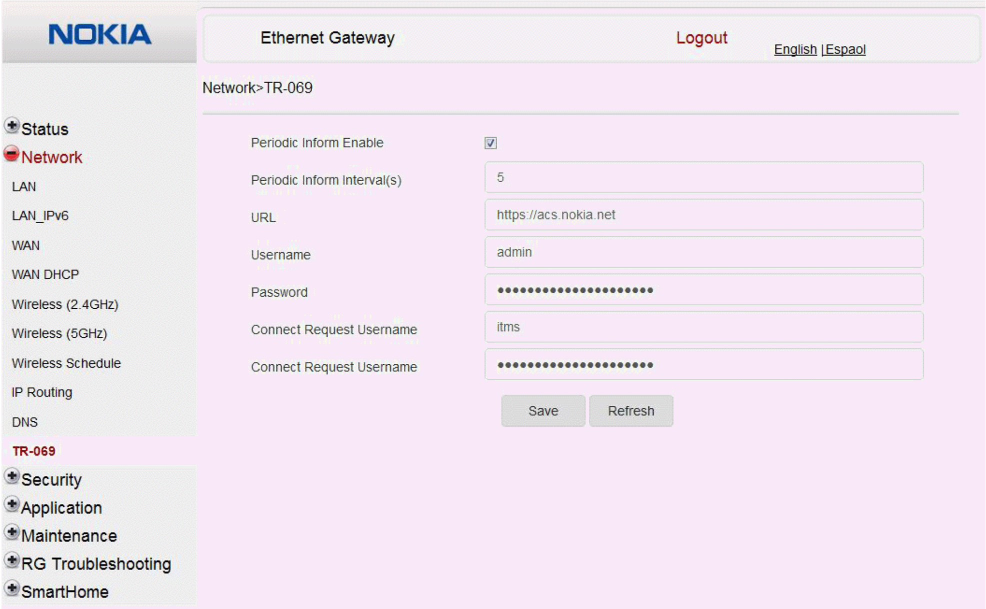
3 If required, associate an origin domain with a new domain, click Add.

4 STOP. This procedure is complete.

Procedure 24 TR-069 configuration

1 Select Network > TR-069 from the top-level menu in the Ethernet Gateway window, as shown in Figure 33.

Figure 33 **TR-069 network window**



Periodic Inform Enable	☑
Periodic Inform Interval(s)	5
URL	https://acs.nokia.net
Username	admin
Password	••••••••••••••••••••
Connect Request Username	itms
Connect Request Username	••••••••••••••••••••

Table 28 describes the fields in the TR-069 network window.

Table 28 **TR-069 network parameters**

Field	Description
Periodic Inform Enable	Select this checkbox to enable periodic inform updates
Periodic Inform Interval(s)	Time between periodic inform updates, in seconds
URL	URL of the auto-configuration server
Username	Username used to log in to the CPE

(1 of 2)

Field	Description
Password	Password used to log in to the CPE
Connect Request Username	Username used to log in to the auto-configuration server
Connect Request Password	Password used to log in to the auto-configuration server

(2 of 2)

2 Configure TR-069 by entering the required information.

3 Click Save.

4 STOP. This procedure is complete.

8.2.4 Security configuration

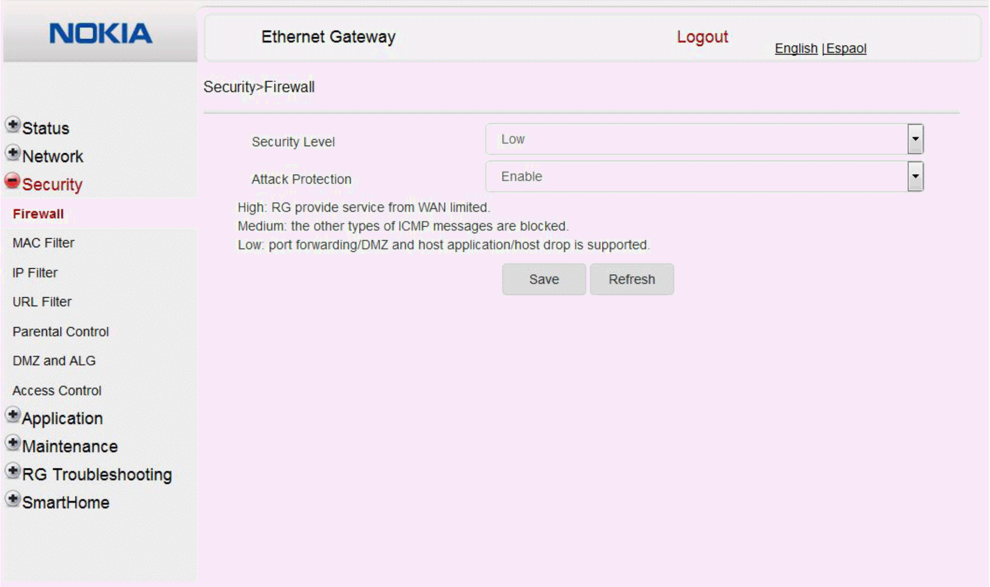
A-240Z-A CPE also supports security configuration, including:

- firewall
- MAC filter
- IP filter
- URL filter
- parental control
- DMZ and ALG
- access control

Procedure 25 Firewall configuration

1 Select Security > Firewall from the top-level menu in the Ethernet Gateway window, as shown in Figure 34.

Figure 34 **Firewall window**



Security>Firewall

Security Level: Low

Attack Protection: Enable

High: RG provide service from WAN limited.
Medium: the other types of ICMP messages are blocked.
Low: port forwarding/DMZ and host application/host drop is supported.

Firewall security applies only to services provided by the CPE. Internet access from the LAN side is not affected by this firewall.

Three security levels are available: Low, Medium, and High.

At the Low level, pre-routing is supported: port forwarding, DMZ, host application, and host drop. Also supported are application services: DDNS, DHCP, DNS, H248, IGMP, NTP client, SSH, Telnet, TFTP, TR-069, and VoIP.

At the Medium level, pre-routing is supported: port forwarding, DMZ, host application, and host drop. Also supported are application services: DDNS, DHCP, DNS, H248, IGMP, NTP client, TFTP, TR-069, and VoIP. The following types of ICMP messages are permitted: echo request and reply, destination unreachable, and TTL exceeded. Other types of ICMP messages are blocked. DNS proxy is supported from LAN to WAN but not from WAN to LAN.

At the High level, pre-routing and application services are not supported. UDP Port 8000 can be used to access the services, for example FTP can use 8021 and Telnet can use 8023. Regular UDP cannot be used. RG access is permitted via the LAN side but not via the WAN side.

Table 29 describes the fields in the firewall window.

Table 29 **Firewall parameters**

Field	Description
Security level	Choose the security level from the drop-down menu: low, medium, or high
Attack Protect (Protection against DoS or DDoS attacks)	Choose enable or disable attack protect from the drop-down menu The default is disable

2 Configure the firewall.

3 Click Save.

4 STOP. This procedure is complete.

Procedure 26 MAC filter configuration

1 Select Security > MAC Filter from the top-level menu in the Ethernet Gateway window, as shown in Figure 35.

Figure 35 **MAC filter window**

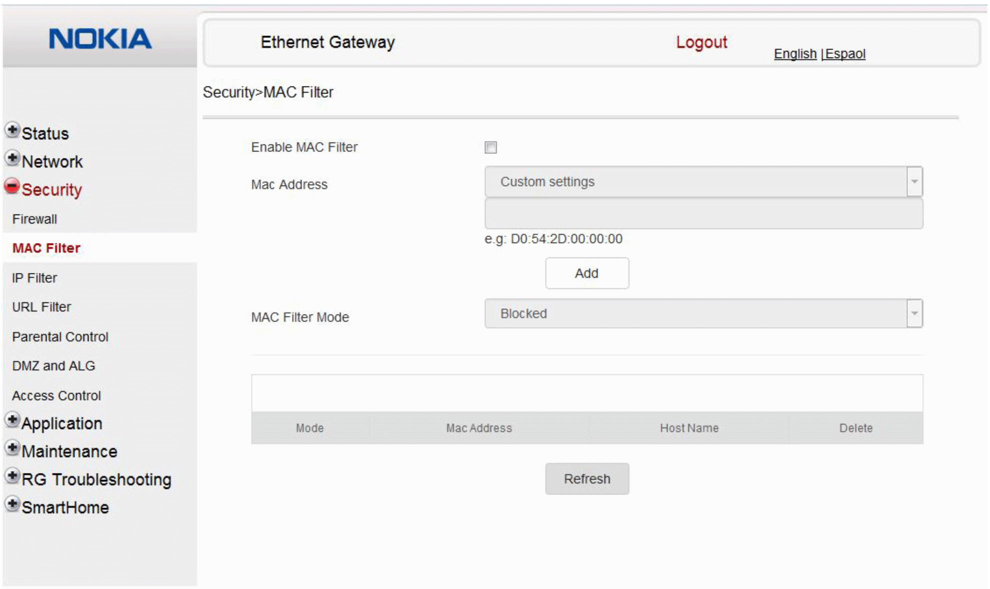


Table 30 describes the fields in the MAC filter window.

Table 30 MAC filter parameters

Field	Description
Enable MAC filter	Select this checkbox to enable the MAC filter
MAC Address	Select a MAC address from the drop-down menu or enter the address in the text field
MAC Filter Mode	Choose the MAC filter mode from this drop-down menu: Blocked or Allowed

2 Click Refresh to update the information.

3 Configure a MAC filter.

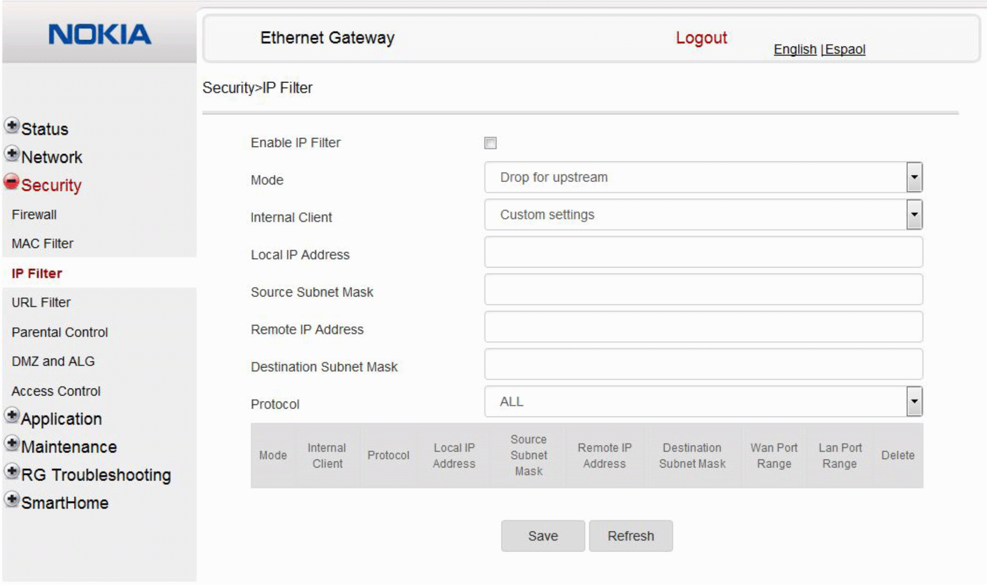
4 Click Add.

5 STOP. This procedure is complete.

Procedure 27 IP filter configuration

1 Select Security > IP filter from the top-level menu in the Ethernet Gateway window, as shown in Figure 36.

Figure 36 IP filter window



Security>IP Filter

Enable IP Filter	□
Mode	Drop for upstream
Internal Client	Custom settings
Local IP Address	
Source Subnet Mask	
Remote IP Address	
Destination Subnet Mask	
Protocol	ALL

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

Table 31 describes the fields in the IP filter window.

Table 31 **IP filter parameters**

Field	Description
Enable IP Filter	Select this checkbox to enable an IP filter
Mode	Choose an IP filter mode from the drop-down menu: • Drop for upstream • Drop for downstream
Internal Client	Choose an internal client from the drop-down menu: • Customer setting - uses the IP address input below • IP - uses the connecting devices' IP to the CPE
Local IP Address	Local IP address
Source Subnet Mask	Source subnet mask
Remote IP Address	Remote IP address
Destination Subnet Mask	Destination subnet mask
Protocol	Choose an application protocol or all from the drop-down menu

2 Configure the IP filter.

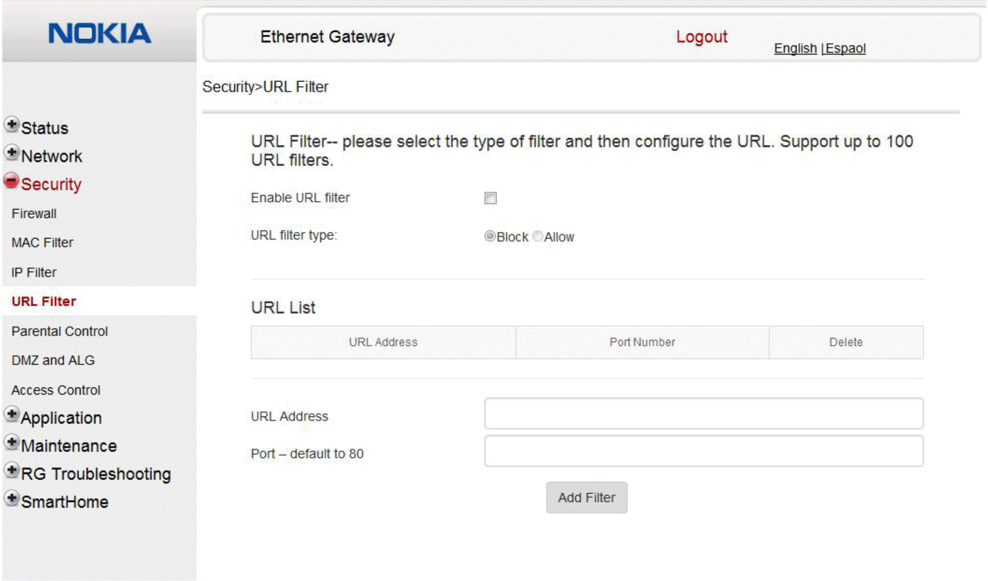
3 Click Add.

4 STOP. This procedure is complete.

Procedure 28 URL filter configuration

1 Select Security > URL Filter from the top-level menu in the Ethernet Gateway window, as shown in Figure 37.

Figure 37 **URL Filter window**



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

Table 32 describes the fields in the URL Filter window.

Table 32 **URL Filter parameters**

Field	**Description**
Enable URL filter	Select the checkbox to enable the URL filter
URL filter type	Select the checkbox for Exclude URL or Include URL
URL Address	Type the URL address
Port Number	Type the port number; the default is 80

2 Configure the URL Filter.

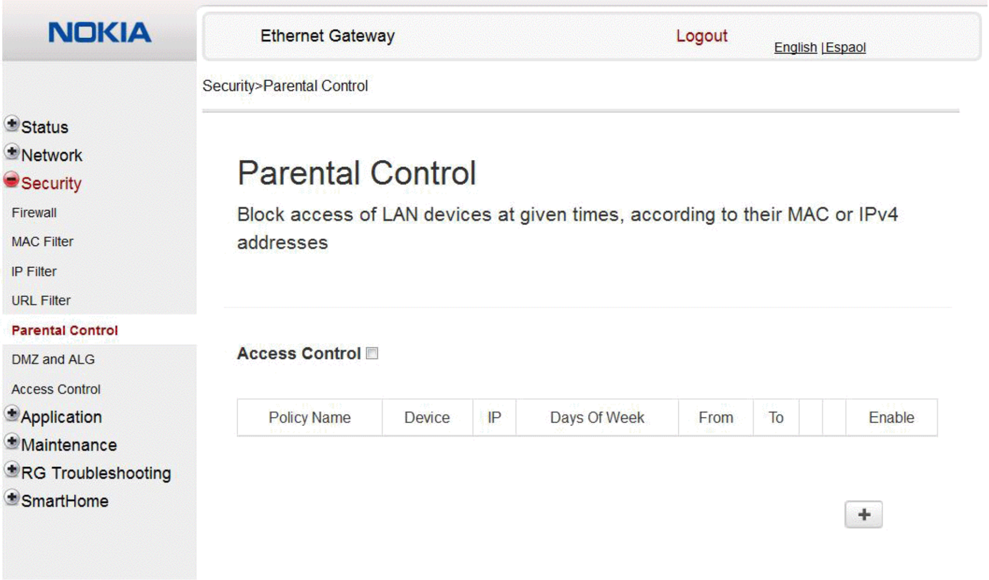
3 Click Add Filter.

4 STOP. This procedure is complete.

Procedure 29 Parental control

1 Select Security > Parent Control from the top-level menu in the Ethernet Gateway window, as shown in Figure 38.

Figure 38 **Parental Control window**



Parental Control

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

Access Control □

Policy Name	Device	IP	Days Of Week	From	To			Enable

Table 33 describes the fields in the Parental Control window.

Table 33 **Parental control parameters**

Field	Description
Policy Name	Enter a name for the parental control policy or choose a policy from the list
MAC Address	Enter the MAC address or choose a MAC address from the list
IPv4 Address	Enter the IPv4 address for the device or choose an IPv4 address from the list
Days of the week	Choose Every Day, or Individual Days and select the checkboxes for the days of the week for which the policy applies
From/To	Enter the times for the policy to be in effect

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 parental control policy.

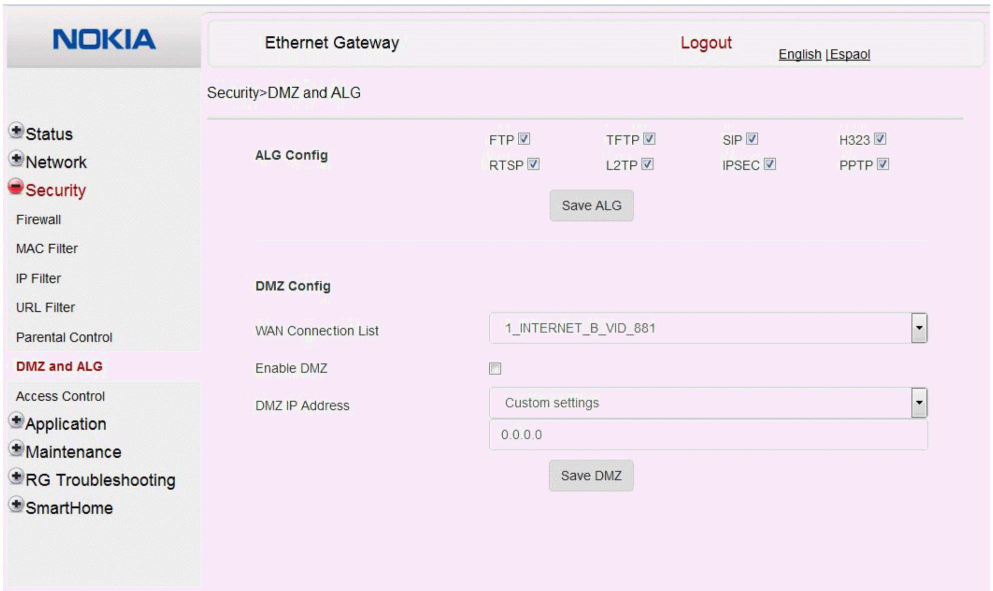
5 Click Enable to activate the policy.

6 STOP. This procedure is complete.

Procedure 30 DMZ and ALG configuration

1 Select Security > DMZ and ALG from the top-level menu in the Ethernet Gateway window, as shown in Figure 39.

Figure 39 **DMZ and ALG window**



Security>DMZ and ALG

ALG Config

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

DMZ Config

WAN Connection List: 1_INTERNET_B_VID_881

Enable DMZ ☐

DMZ IP Address: Custom settings

0.0.0.0

Table 34 describes the fields in the DMZ and ALG window.

Table 34 **DMZ and 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	

(1 of 2)

Field	Description
WAN Connection List	Choose a WAN connection from the drop-down menu
Enable DMZ	Select this checkbox to enable DMZ on the chosen WAN connection
DMZ IP Address	Choose Customer Setting and enter the DMZ IP address or choose the IP address of a connected device from the drop-down menu

(2 of 2)

2 Configure ALG.

3 Click Save ALG.

4 Configure DMZ.

5 Click Save DMZ.

6 STOP. This procedure is complete.

Procedure 31 Access control configuration

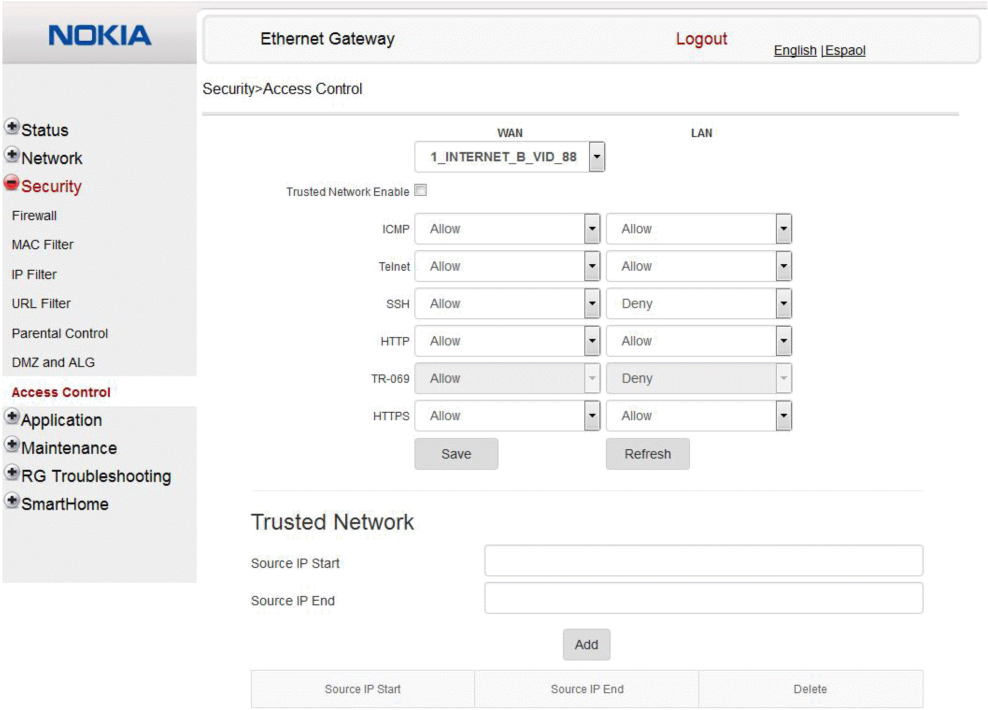
This procedure describes how to configure the access control level (ACL).

Note 1 — ACL takes precedence over the firewall policy.

Note 2 — The trusted network object will be shared for all WAN connections; it is not applied individually to a WAN connection.

1 Select Security > Access Control from the top-level menu in the Ethernet Gateway window, as shown in Figure 40.

Figure 40 Access Control window



Security>Access Control

	WAN	LAN
	1_INTERNET_B_VID_88	
Trusted Network Enable □		
ICMP	Allow	Allow
Telnet	Allow	Allow
SSH	Allow	Deny
HTTP	Allow	Allow
TR-069	Allow	Deny
HTTPS	Allow	Allow

Trusted Network

Source IP Start

Source IP End

Source IP Start	Source IP End	Delete

Table 35 describes the fields in the Access Control window.

Table 35 Access control parameters

Field	Description
WAN	Choose a connection from the drop-down menu
Trusted Network Enable	Click to enable or disable

(1 of 2)

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

(2 of 2)

2 Select a WAN connection from the drop-down menu.

3 Click to enable or disable Trusted Network.

4 Select an access control level for each of the six protocols: ICMP, Telnet, SSH, HTTP, TR-069, and HTTPS for both the WAN and the LAN side.

5 Click Save.

6 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.

7 STOP. This procedure is complete.

8.2.5 Application configuration

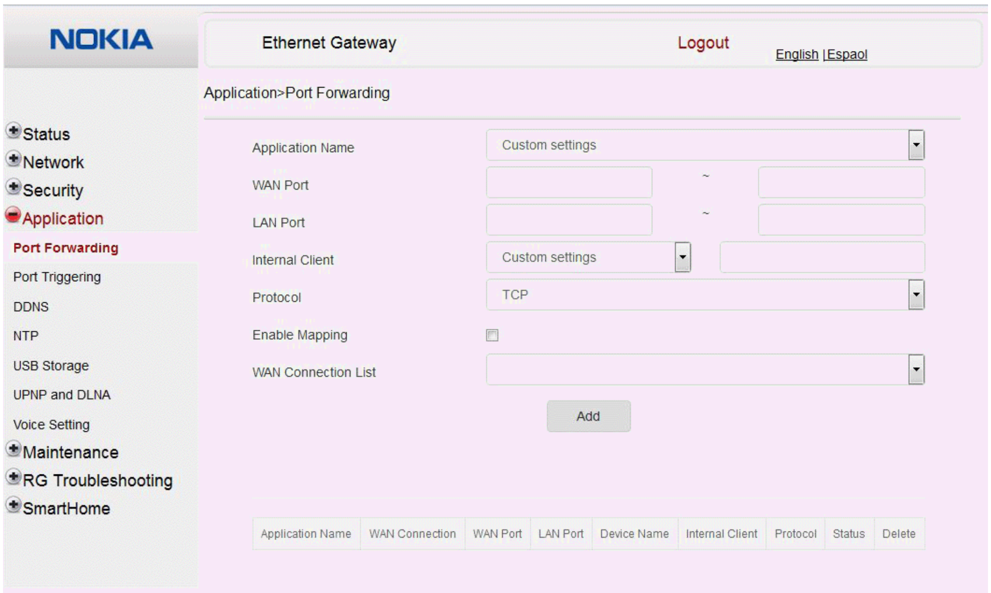
A-240Z-A CPE also supports application configuration, including:

- port forwarding
- port triggering
- DDNS
- NTP
- USB
- UPnP and DLNA
- voice setting

Procedure 32 Port forwarding configuration

1 Select Application > Port forwarding from the top-level menu in the Ethernet Gateway window, as shown in Figure 41.

Figure 41 Port forwarding window



Application>Port Forwarding

Application Name: Custom settings

WAN Port: ~

LAN Port: ~

Internal Client: Custom settings

Protocol: TCP

Enable Mapping □

WAN Connection List

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

Table 36 describes the fields in the port forwarding window.

Table 36 Port forwarding parameters

Field	Description
Application Name	Choose an application name from the drop-down menu
WAN Port	WAN port range
LAN Port	LAN port range
Internal Client	Choose a connected device from the drop-down menu and enter the associated IP address
Protocol	Choose the port forwarding protocol from the drop-down menu: • TCP • UDP • TCP/UDP
Enable Mapping	Select this checkbox to enable mapping
WAN Connection List	Choose a WAN connection from the drop-down menu Note: only active devices are shown on this menu

2 Configure port forwarding.

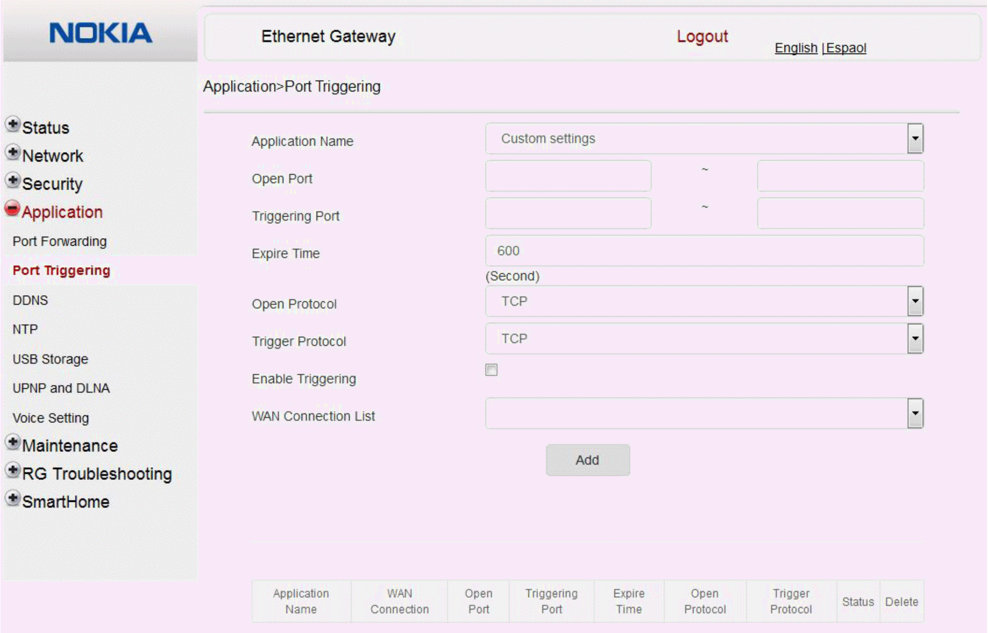
3 Click Add.

4 STOP. This procedure is complete.

Procedure 33 Port triggering

1 Select Application > Port Triggering from the top-level menu in the Ethernet Gateway window, as shown in Figure 42.

Figure 42 Port Triggering window



Application Name: Custom settings

Open Port: ~

Triggering Port: ~

Expire Time: 600 (Second)

Open Protocol: TCP

Trigger Protocol: TCP

Enable Triggering: □

WAN Connection List:

Table 36 describes the fields in the Port Triggering window.

Table 37 Port triggering parameters

Field	Description
Application Name	Choose an application name from the drop-down menu
Open Port	Enter the open port range

(1 of 2)

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

(2 of 2)

2 Configure port triggering.

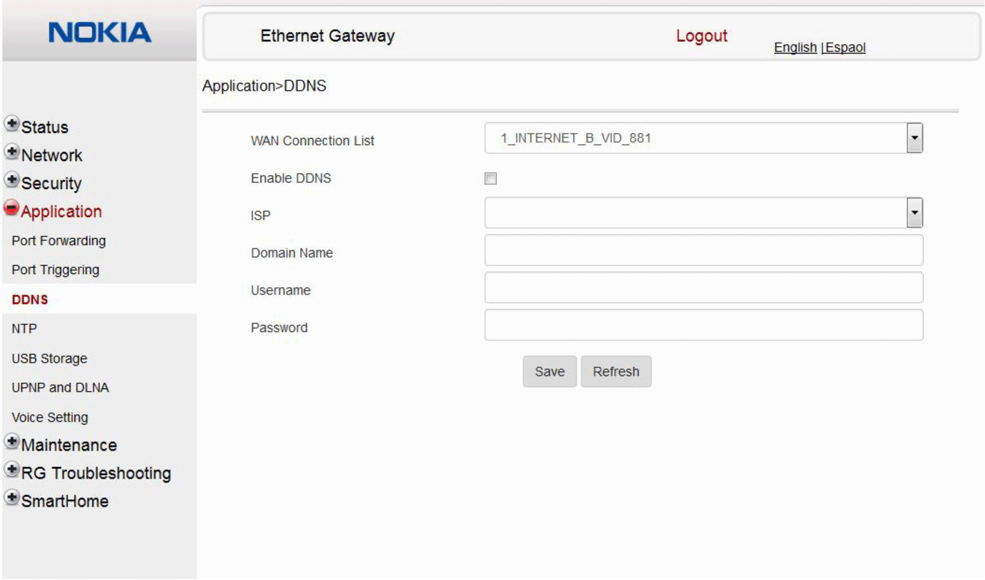
3 Click Add.

4 STOP. This procedure is complete.

Procedure 34 DDNS configuration

1 Select Application > DDNS from the top-level menu in the Ethernet Gateway window, as shown in Figure 43.

Figure 43 **DDNS window**



Application>DDNS

WAN Connection List	1_INTERNET_B_VID_881
Enable DDNS	□
ISP	
Domain Name	
Username	
Password	

Table 38 describes the fields in the DDNS window.

Table 38 **DDNS parameters**

Field	Description
WAN Connection List	Choose a WAN connection from the drop-down menu
Enable DDNS	Select this checkbox to enable DDNS on the chosen WAN connection
ISP	Choose an ISP from the drop-down menu.
Domain Name	Domain name
Username	Username
Password	Password

2 Configure DDNS.

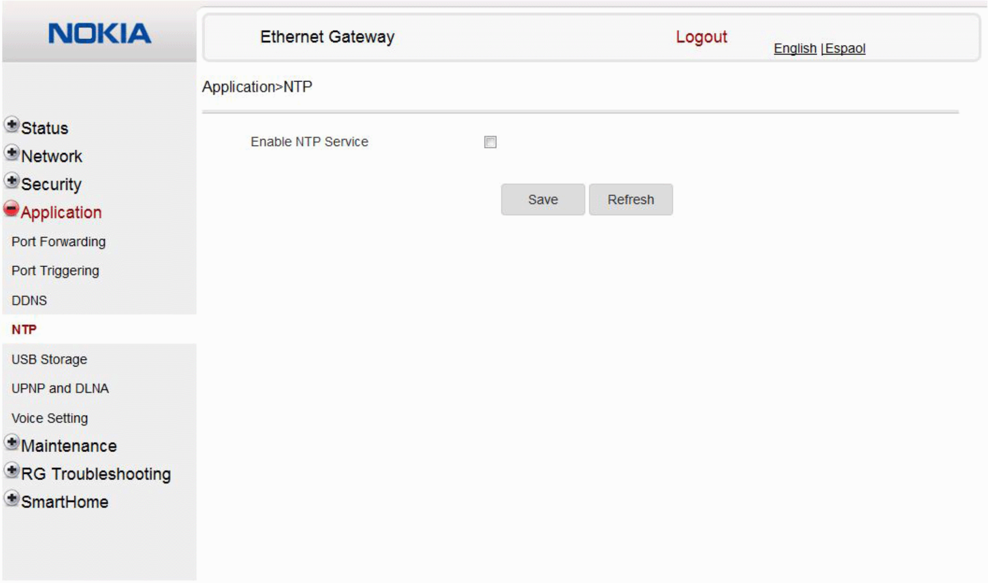
3 Click Save.

4 STOP. This procedure is complete.

Procedure 35 NTP configuration

1 Select Application > NTP from the top-level menu in the Ethernet Gateway window, as shown in Figure 44.

Figure 44 **NTP window**



Application>NTP

Enable NTP Service □

2 Select the Enable NTP Service checkbox.

3 Click Save.

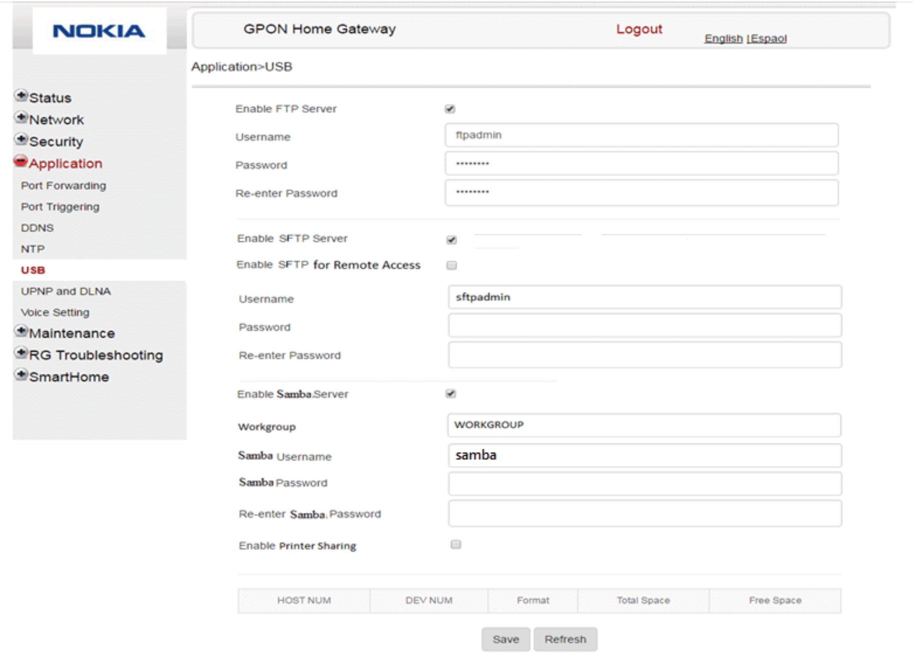
4 STOP. This procedure is complete.

Procedure 36 USB configuration

1 Select Application > USB from the top-level menu in the Ethernet Gateway window, as shown in Figure 45.

A USB printer that is connected to the ONT is available to all LAN devices.

Figure 45 **USB window**



Application>USB

Enable FTP Server ☑
Username ftpadmin
Password ••••••••
Re-enter Password ••••••••

Enable SFTP Server ☑
Enable SFTP for Remote Access □
Username sftpadmin
Password
Re-enter Password

Enable Samba Server ☑
Workgroup WORKGROUP
Samba Username samba
Samba Password
Re-enter Samba Password
Enable Printer Sharing □

HOST NUM	DEV NUM	Format	Total Space	Free Space

Table 39 describes the fields in the USB window.

Table 39 **USB parameters**

Field	Description
Enable FTP server	Select this checkbox to enable using an FTP server
Username	Username for FTP server
Password	Password for FTP server
Re-enter Password	Password for 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	Username for SFTP server
Password	Password for SFTP server

(1 of 2)

Field	Description
Re-enter Password	Password for SFTP server
Enable Samba server	Select this checkbox to enable using a Samba server
Workgroup	Enter the name for the Samba work group
Samba Username	Username for Samba server
Samba Password	Password for Samba server
Re-enter Samba Password	Password for Samba server
Enable Printer Sharing	Select this checkbox to enable printer sharing Printer sharing is disabled by default
Connected USB devices	For each printer that is connected to the ONT, the following fields are displayed: • Host NUM: for example: Printer1, Printer2 • Dev NUM: name or identification for the printer • Format: printer format, for example: raw or LPR • Total space • Free space

(2 of 2)

2 Configure USB.

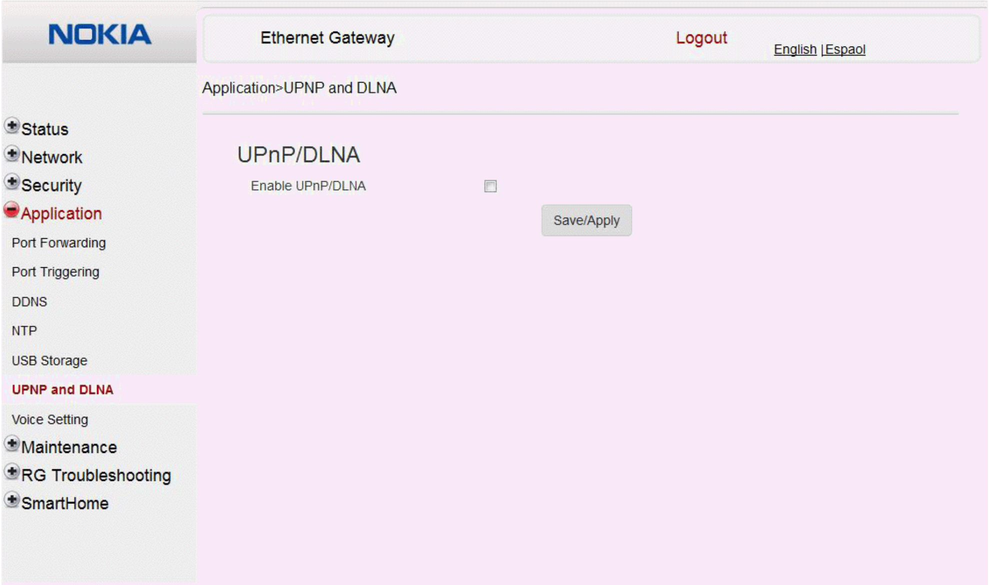
3 Click Save.

4 STOP. This procedure is complete.

Procedure 37 UPnP and DLNA configuration

1 Select Application > UPnP and DLNA from the top-level menu in the Ethernet Gateway window, as shown in Figure 46.

Figure 46 **UPnP and DLNA window**



Enable UPnP/DLNA □

2 Select the Enable UPnP checkbox to enable UPnP.

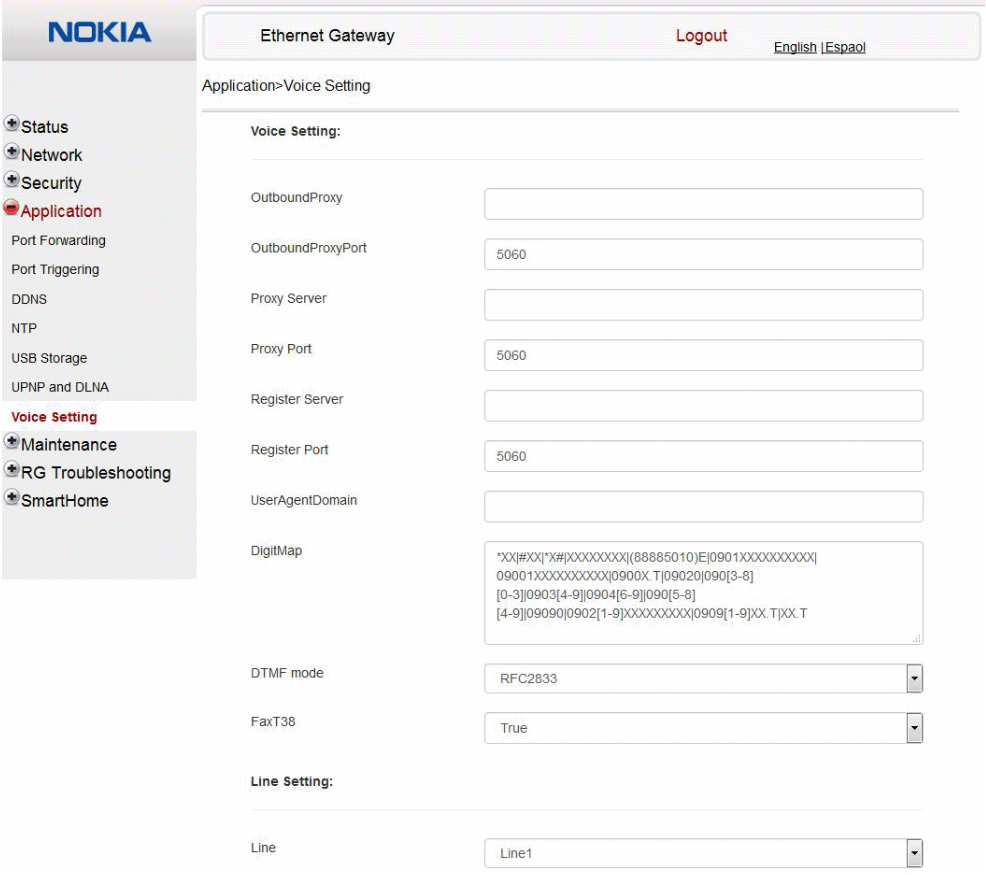
3 Click Save/Apply.

4 STOP. This procedure is complete.

Procedure 38 Voice setting

1 Select Application > Voice Setting from the top-level menu in the Ethernet Gateway window, as shown in Figure 47.

Figure 47 **Voice setting window**



Application>Voice Setting

Voice Setting:

OutboundProxy

OutboundProxyPort 5060

Proxy Server

Proxy Port 5060

Register Server

Register Port 5060

UserAgentDomain

DigitMap *XX|#XX|*X#|XXXXXXXX|(88885010)E|0901XXXXXXXXXX|09001XXXXXXXXXX|0900X.T|09020|090[3-8][0-3]|0903[4-9]|0904[6-9]|090[5-8][4-9]|09090|0902[1-9]XXXXXXXXX|0909[1-9]XX.T|XX.T

DTMF mode RFC2833

FaxT38 True

Line Setting:

Line Line1

Table 40 describes the fields in the Voice Setting window.

Table 40 **Voice setting parameters**

Field	Description
Outbound Proxy	Enter the SIP outbound proxy
Outbound Proxy Port	Enter the outbound proxy port
Proxy Server	Enter the proxy server
Proxy Port	Enter the proxy port

(1 of 2)

Field	Description
Register Server	Enter the register server
Register Port	Enter the register port
User Agent Domain	Enter the user agent domain
DTMF Mode	Choose InBand, rfc2822, Info, or Auto from the drop-down menu
FaxT38	Choose False or True from the drop-down menu
Line	Choose a line from the drop-down menu
Enable	Choose Enabled or Disabled from the drop-down menu
Directory Number	Enter a directory number
AuthUserName	Enter an authorized user name
AuthPassword	Enter a password for the user
URL	Enter the URL

(2 of 2)

2 Configure voice setting.

3 Click Save.

4 STOP. This procedure is complete.

8.2.6 Maintenance

A-240Z-A CPE also supports maintenance tasks, including:

- password change
- WAN speed test
- device management
- uplink management
- dongle management
- backup and restore
- firmware upgrade
- device reboot
- restore factory defaults
- diagnose
- log

Procedure 39 Password configuration

1 Select Maintenance > Password from the top-level menu in the Ethernet Gateway window, as shown in Figure 48.

Figure 48 **Password window**

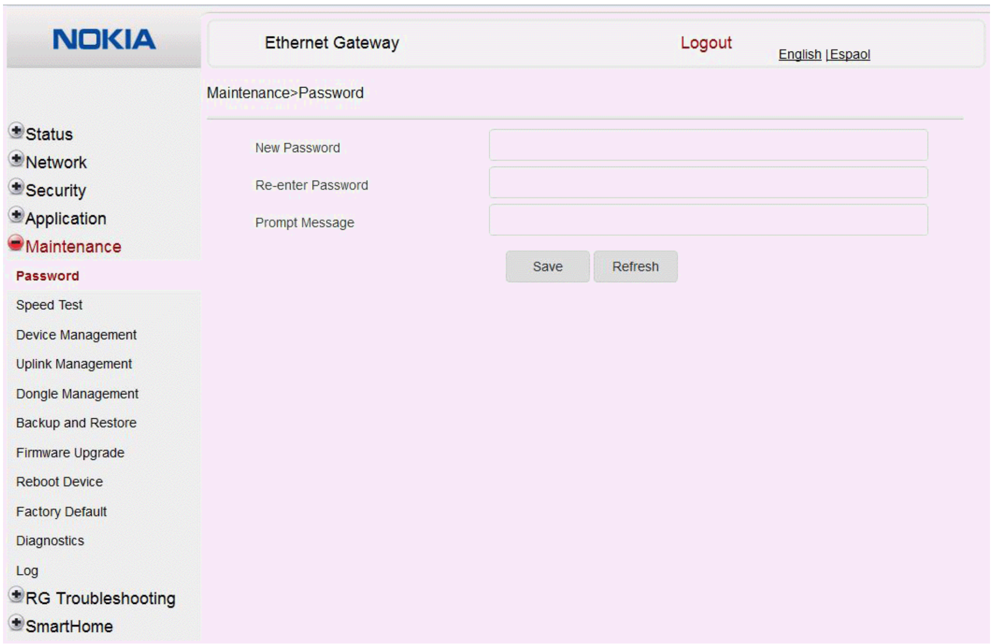


Table 41 describes the fields in the password window.

Table 41 **Password parameters**

Field	Description
New Password	New password
Re-enter password	Password must match password entered above
Prompt message	Password prompt message

2 Configure the new password.

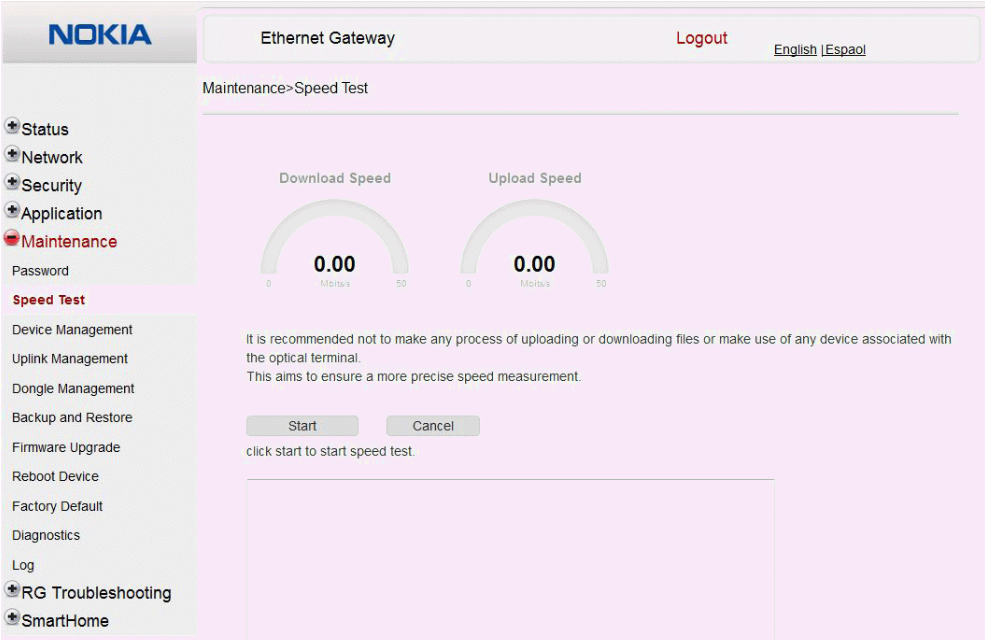
3 Click Save.

4 STOP. This procedure is complete.

Procedure 40 WAN speed test

1 Select Maintenance > Speed Test from the top-level menu in the Ethernet Gateway window, as shown in Figure 49.

Figure 49 **Speed Test window**



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.

click start to start speed test.

2 Click Start to start the speed test.

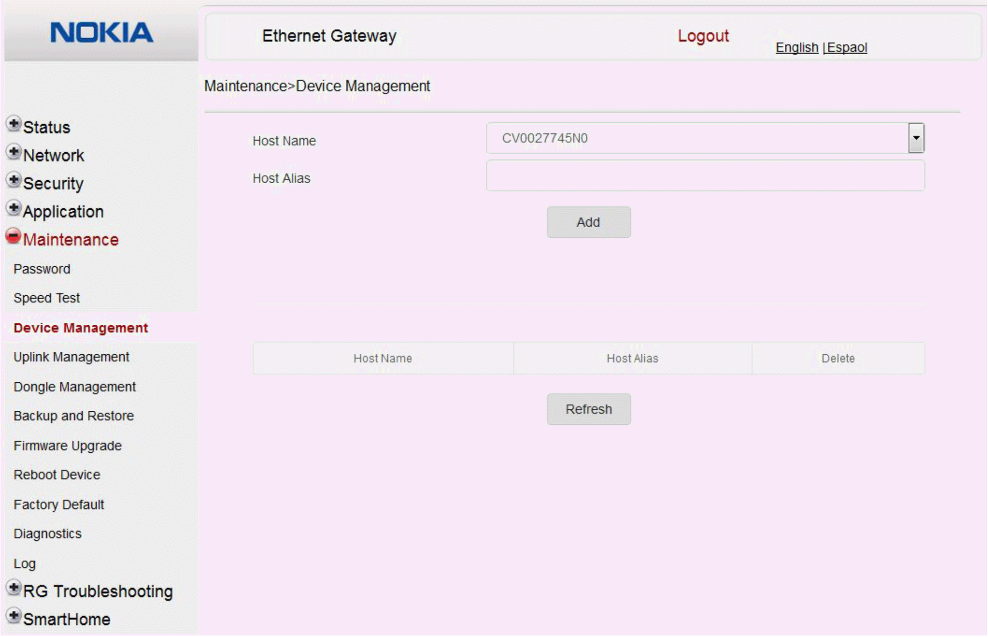
Enter the URL for the test server in the pop-up window.

3 STOP. This procedure is complete.

Procedure 41 Device management

1 Select Maintenance > Device Management from the top-level menu in the Ethernet Gateway window, as shown in Figure 50.

Figure 50 Device management window



Host Name: CV0027745N0

Host Alias:

Table 42 describes the fields in the Device management window.

Table 42 Device management parameters

Field	Description
Host Name	Choose a host from the drop-down menu
Host Alias	Enter an alias for the chosen host

2 Configure an alias for a specific host.

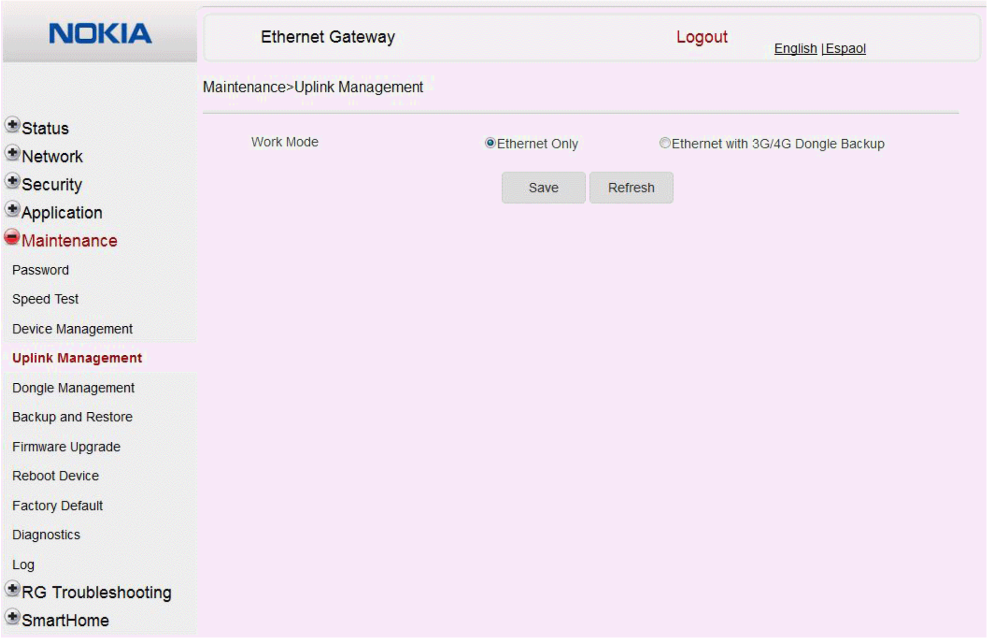
3 Click Add.

4 STOP. This procedure is complete.

Procedure 42 Uplink management

1 Select Maintenance > Uplink Management from the top-level menu in the Ethernet Gateway window, as shown in Figure 51.

Figure 51 **Uplink Management window**



Maintenance>Uplink Management

Work Mode ● Ethernet Only ○ Ethernet with 3G/4G Dongle Backup

2 Select a Work Mode: Ethernet Only or Ethernet with 3G/4G Dongle Backup.

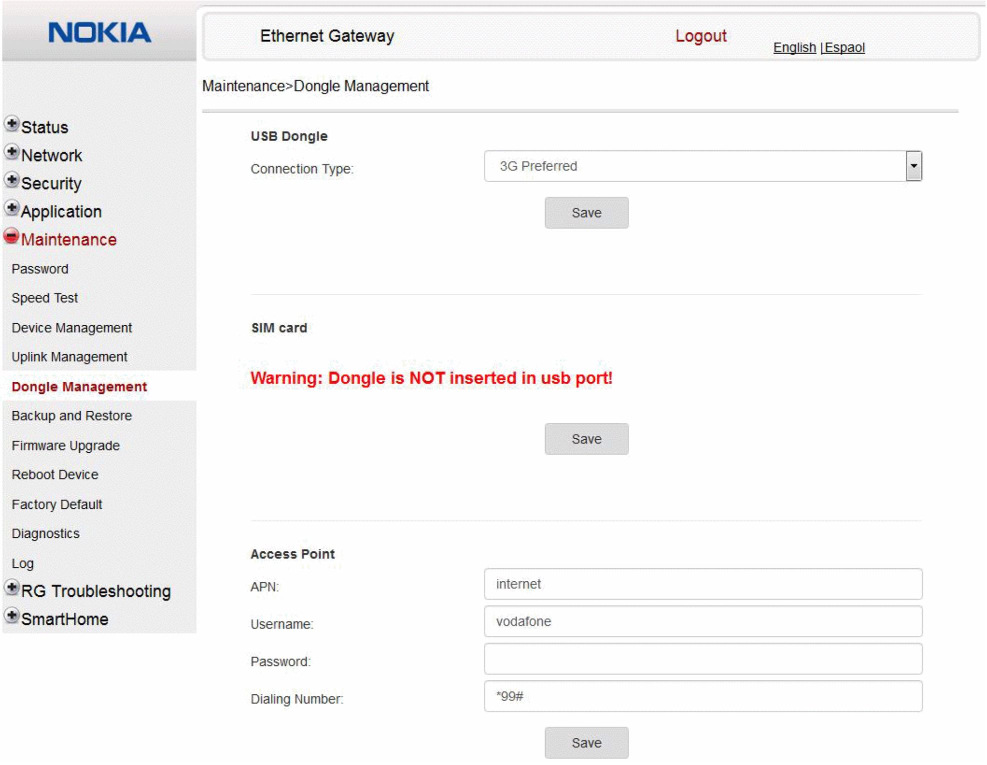
3 Click Save.

4 STOP. This procedure is complete.

Procedure 43 Dongle management

1 Select Maintenance > Dongle Management from the top-level menu in the Ethernet Gateway window, as shown in Figure 52.

Figure 52 Dongle management window



Maintenance>Dongle Management

USB Dongle

Connection Type: 3G Preferred

SIM card

Warning: Dongle is NOT inserted in usb port!

Access Point

APN: internet

Username: vodafone

Password:

Dialing Number: *99#

Table 42 describes the fields in the Dongle management window.

Table 43 Dongle management parameters

Field	Description
USB Dongle	Choose a connection type from the drop-down menu
SIM card	Choose a SIM card from the drop-down menu
Access Point	Enter the APN, username, password, and dialing number for the access point

2 Configure the USB dongle.

3 Click Save.

4 Configure the SIM card.

5 Click Save.

6 Configure the access point.

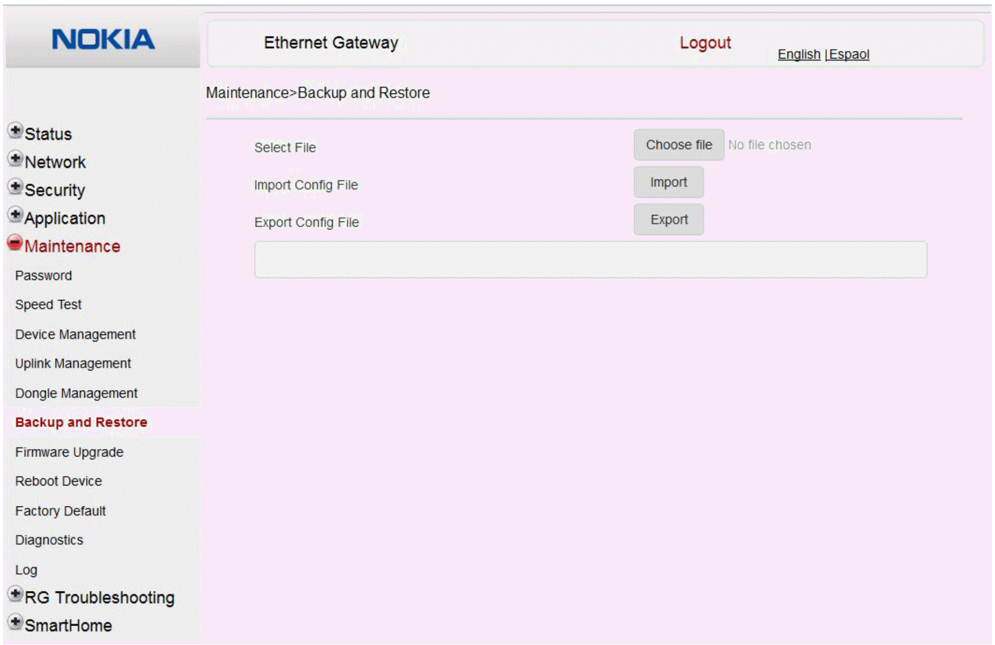
7 Click Save.

8 STOP. This procedure is complete.

Procedure 44 Backup and restore

1 Select Maintenance > Backup and Restore from the top-level menu in the Ethernet Gateway window, as shown in Figure 53.

Figure 53 **Backup and Restore window**



2 Click Select File and choose the backup file.

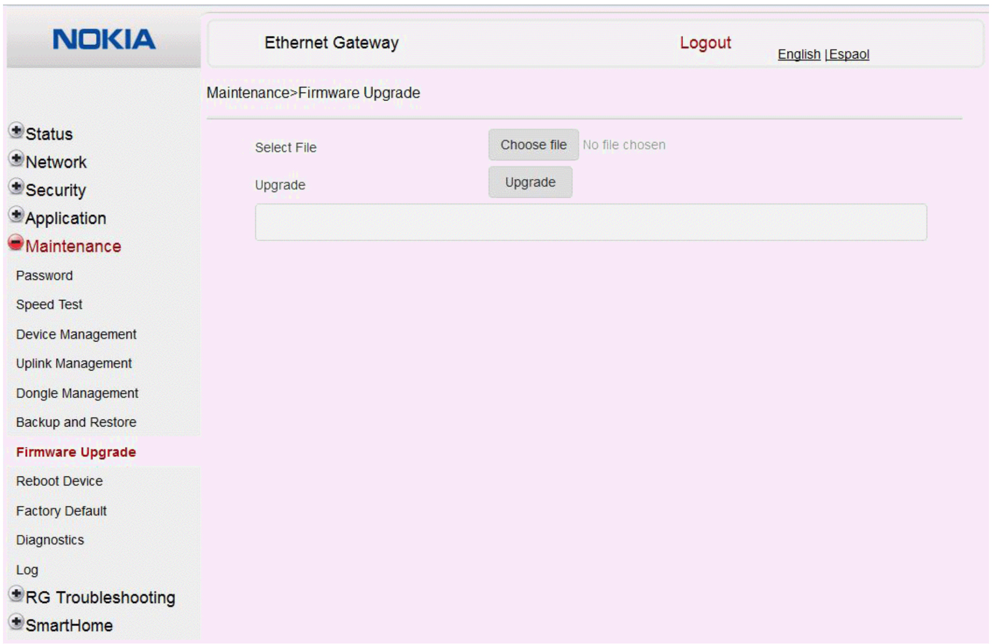
3 Click Import Config File to restore the CPE to the saved backup or click Export Config File to export the current CPE configuration to the backup file.

4 STOP. This procedure is complete.

Procedure 45 Upgrade firmware

1 Select Maintenance > Firmware Upgrade from the top-level menu in the Ethernet Gateway window, as shown in Figure 54.

Figure 54 Firmware upgrade window



2 Click Select File and choose the firmware file.

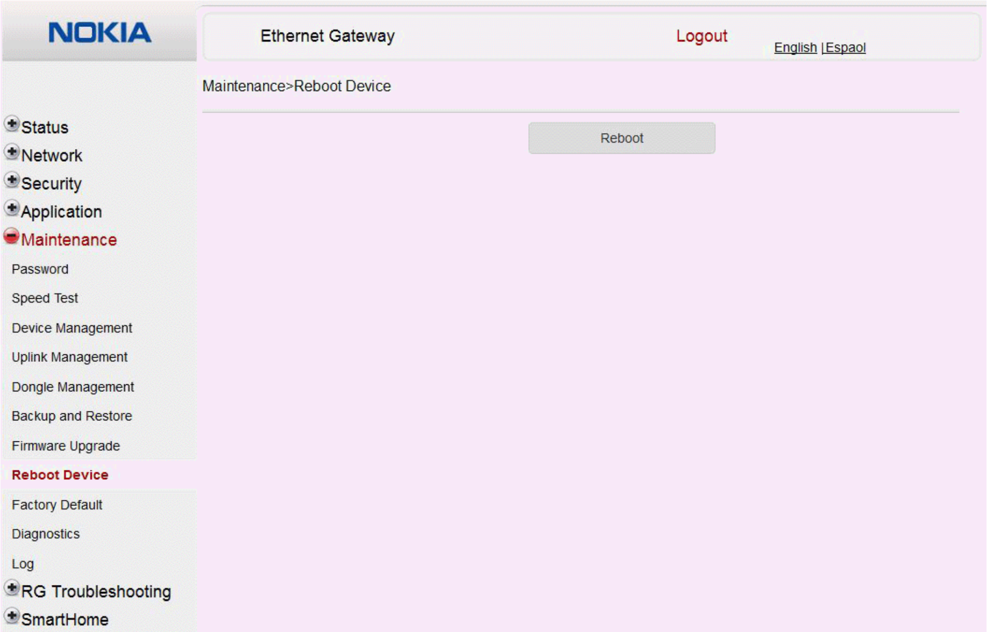
3 Click Upgrade to upgrade the firmware.

4 STOP. This procedure is complete.

Procedure 46 Reboot CPE

1 Select Maintenance > Reboot Device from the top-level menu in the Ethernet Gateway window, as shown in Figure 55.

Figure 55 Reboot window



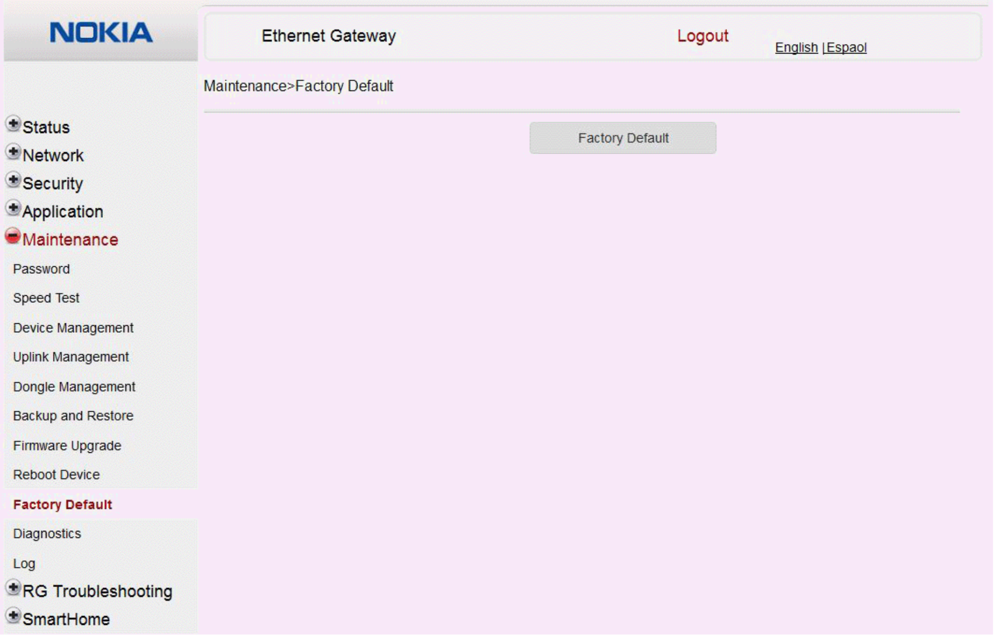
2 Click Reboot to reboot the CPE.

3 STOP. This procedure is complete.

Procedure 47 Restore factory defaults

1 Select Maintenance > Factory Default from the top-level menu in the Ethernet Gateway window, as shown in Figure 56.

Figure 56 **Factory default window**



Note — A factory reset also removes the IoT software image that was installed separately; see "IOT application software package download".

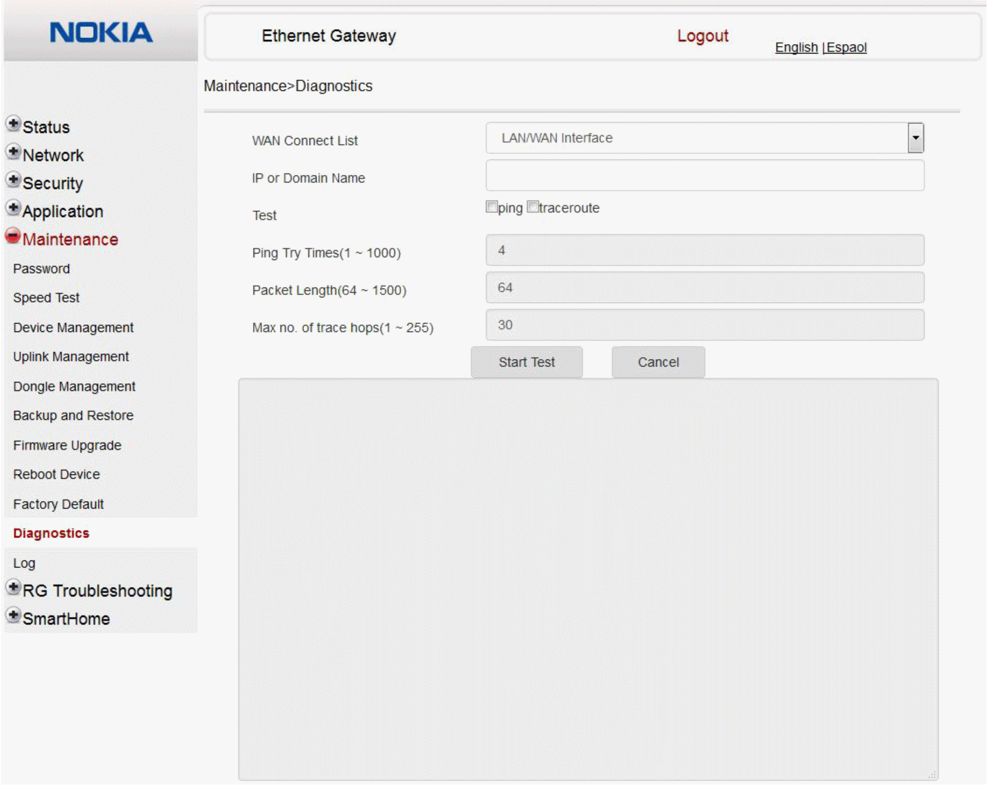
2 Click Factory Default to reset the CPE to its factory default settings.

3 STOP. This procedure is complete.

Procedure 48 Diagnose connections

1 Select Maintenance > Diagnostics from the top-level menu in the Ethernet Gateway window, as shown in Figure 57.

Figure 57 **Diagnostics window**



Maintenance>Diagnostics

WAN Connect List: LAN/WAN Interface

IP or Domain Name:

Test: □ping □traceroute

Ping Try Times(1 ~ 1000): 4

Packet Length(64 ~ 1500): 64

Max no. of trace hops(1 ~ 255): 30

2 Choose a WAN connection to diagnose from the drop-down menu.

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. Results will be displayed at the bottom of the window.

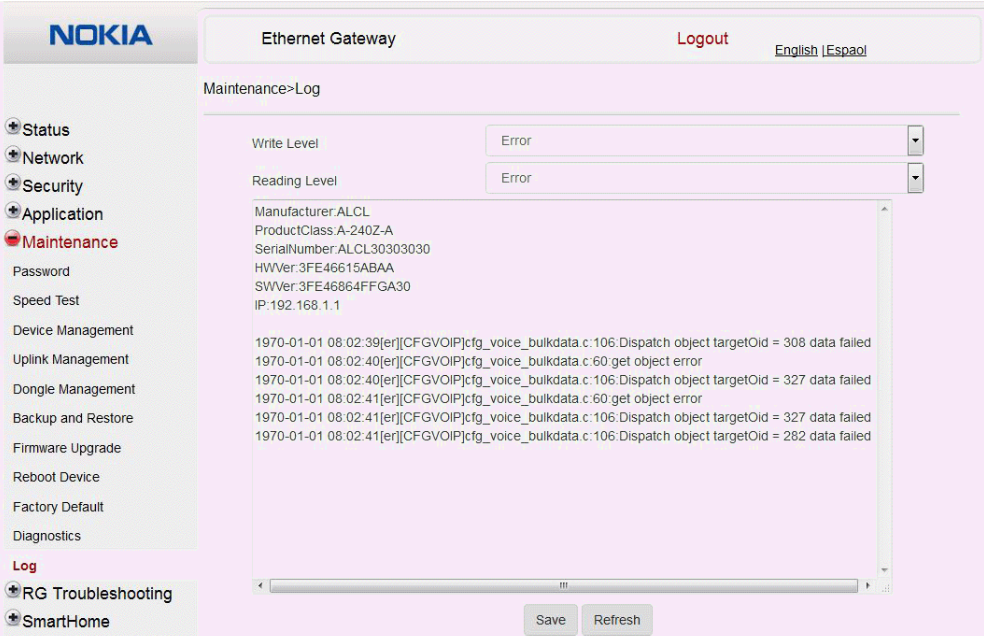
9 Click Cancel to cancel the test.

10 STOP. This procedure is complete.

Procedure 49 View log files

1 Select Maintenance > Log from the top-level menu in the Ethernet Gateway window, as shown in Figure 58.

Figure 58 **Log window**



Maintenance>Log

Write Level: Error

Reading Level: Error

```
Manufacturer:ALCL
ProductClass:A-240Z-A
SerialNumber:ALCL30303030
HWVer:3FE46615ABAA
SWVer:3FE46864FFGA30
IP:192.168.1.1

1970-01-01 08:02:39[er][CFGVOIP]cfg_voice_bulkdata.c:106:Dispatch object targetOid = 308 data failed
1970-01-01 08:02:40[er][CFGVOIP]cfg_voice_bulkdata.c:60:get object error
1970-01-01 08:02:40[er][CFGVOIP]cfg_voice_bulkdata.c:106:Dispatch object targetOid = 327 data failed
1970-01-01 08:02:41[er][CFGVOIP]cfg_voice_bulkdata.c:60:get object error
1970-01-01 08:02:41[er][CFGVOIP]cfg_voice_bulkdata.c:106:Dispatch object targetOid = 327 data failed
1970-01-01 08:02:41[er][CFGVOIP]cfg_voice_bulkdata.c:106:Dispatch object targetOid = 282 data failed
```

2 Choose a write level from the drop-down menu to determine which types of events are recorded in the log file:

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

3 Choose a reading level from the drop-down menu to determine which types of events to display from the log file:

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

4 The log file is displayed at the bottom of the window.

5 STOP. This procedure is complete.

8.2.7 RG troubleshooting counters

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

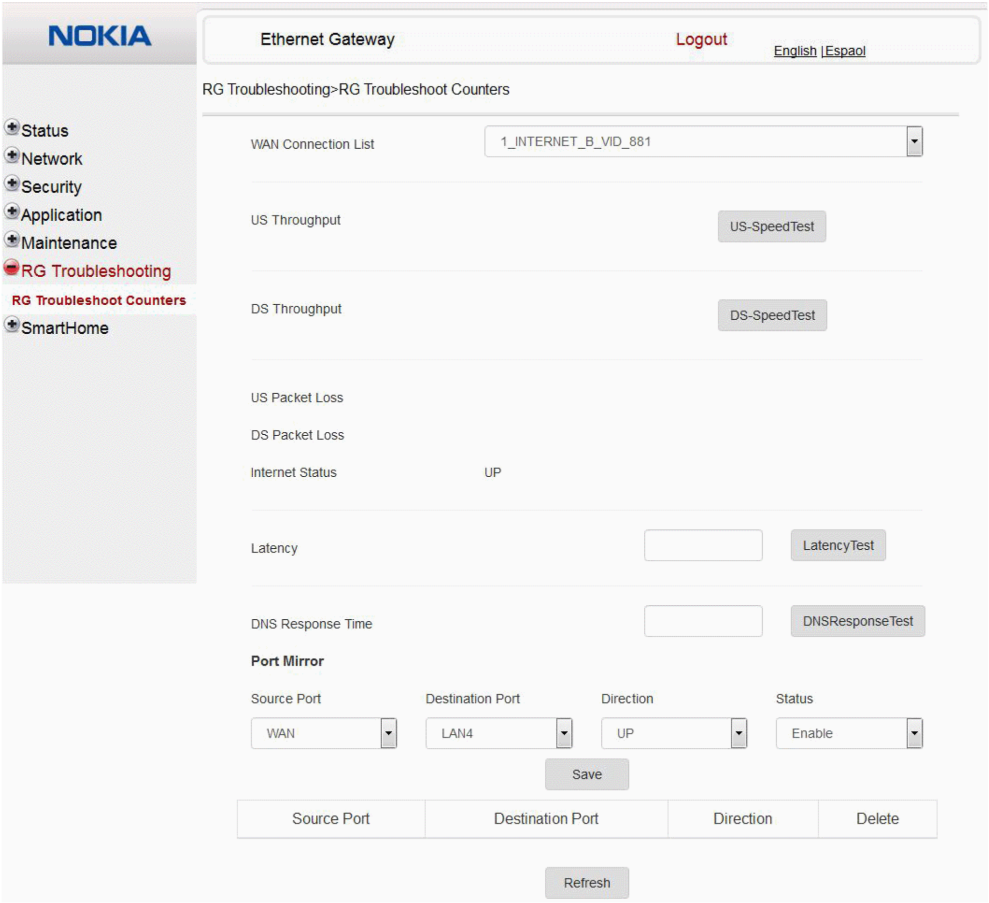
Tests are run to retrieve upstream and downstream throughput, latency, and DNS response time. The Troubleshooting Counters window also displays upstream and downstream packet loss and Internet status.

Procedure 50 Retrieve Residential Gateway (RG) troubleshooting counters

1 Select RG Troubleshooting Counters from the left menu in the Ethernet Gateway window.

The RG Troubleshooting Counters window appears; see Figure 59.

Figure 59 **RG Troubleshooting Counters window**



RG Troubleshooting>RG Troubleshoot Counters

WAN Connection List: 1_INTERNET_B_VID_881

US Throughput

DS Throughput

US Packet Loss

DS Packet Loss

Internet Status: UP

Latency

DNS Response Time

Port Mirror

Source Port	Destination Port	Direction	Status
WAN	LAN4	UP	Enable

Source Port	Destination Port	Direction	Delete

Table 44 describes the fields in the RG Troubleshooting Counters window.

Table 44 **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	The number of upstream packages lost

(1 of 2)

Field	Description
DS Packet Loss	The number of downstream packages lost
Internet Status	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
Port Mirror	Select Source Port, Destination Port, Direction (Up or Down) and Status (Enable or Disable)

(2 of 2)

2 Configure the test times if desired.

3 Click Refresh to update the data.

4 STOP. This procedure is complete.

8.2.8 Smart Home configuration

The Smart Home configuration feature is used to manage the devices for home monitoring systems. Both Zwave and Zigbee are supported. The Smart Home configuration feature supports:

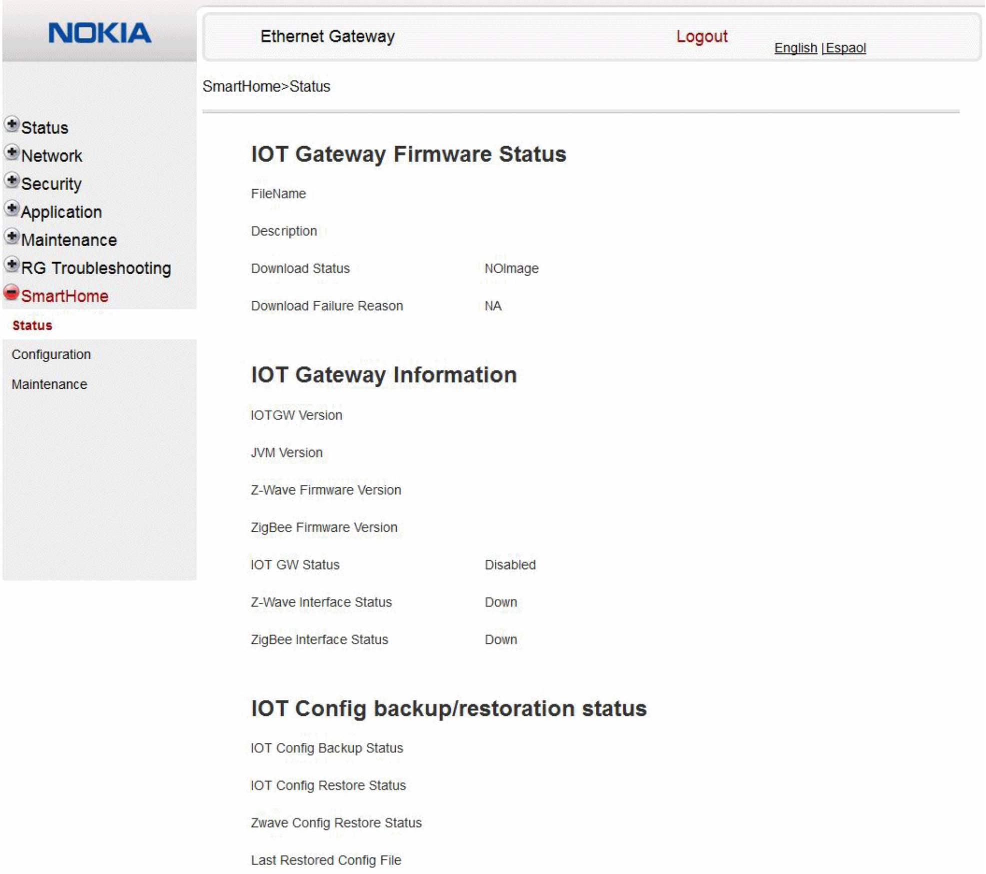
- status retrieval
- configuration
- maintenance

Procedure 51 Smart Home status retrieval

1 Select Smart Home>Status from the left menu in the Ethernet Gateway window.

The Smart Home Status window appears; see Figure 60.

Figure 60 **Smart Home Status window**



SmartHome>Status

IOT Gateway Firmware Status

FileName	
Description	
Download Status	NOImage
Download Failure Reason	NA

IOT Gateway Information

IOTGW Version	
JVM Version	
Z-Wave Firmware Version	
ZigBee Firmware Version	
IOT GW Status	Disabled
Z-Wave Interface Status	Down
ZigBee Interface Status	Down

IOT Config backup/restoration status

IOT Config Backup Status	
IOT Config Restore Status	
Zwave Config Restore Status	
Last Restored Config File	

Table 45 describes the fields in the Smart Home Status window.

Table 45 **Smart Home Status parameters**

Field	Description
IOT Gateway Firmware Status	
Filename	Firmware name
Description	Firmware description
Download Status	Download status: success or failure
Download Failure Reason	Failure reason (if applicable)
IOT Gateway Information	
IOT GW version	IOT gateway identifier
JVM version	Java Virtual Machine identifier
Zwave Firmware version	Zwave firmware identifier (if applicable)
Zigbee Firmware version	Zigbee firmware identifier (if applicable)
IOT GW Status	IOT gateway status: active or inactive, or disabled
Zwave Interface Status	Zwave interface status: up or down
Zigbee Interface Status	Zigbee interface status: up or down
IOT Config backup/restoration status	
IOT Config Backup Status	Status of IOT configuration backup
IOT Config Restore Status	Status of IOT configuration restoration
Zwave Config Restore Status	Status of Zwave configuration restoration
Last Restored Config file	Last restored configuration file

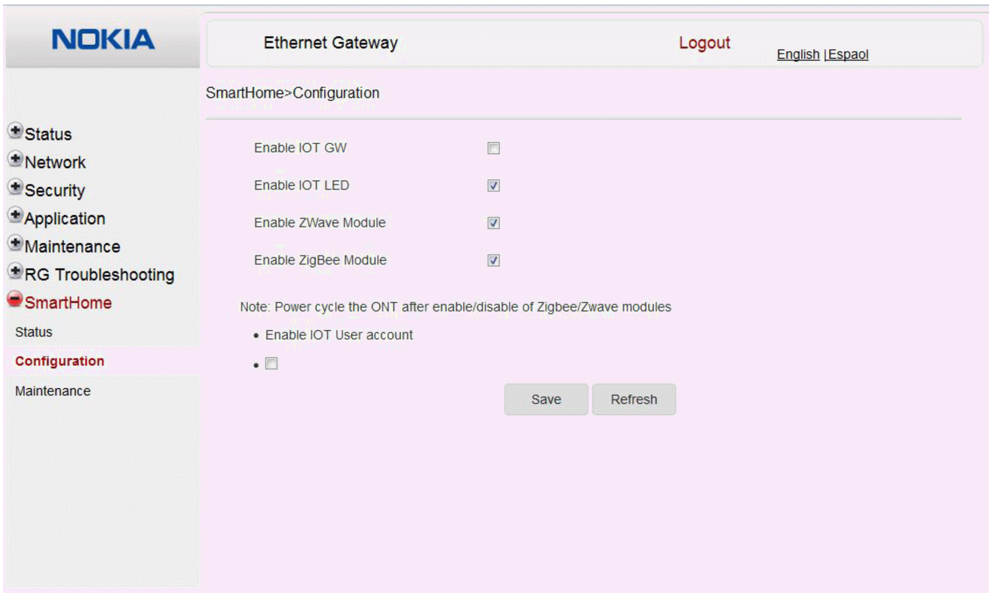
2 STOP. This procedure is complete.

Procedure 52 Smart Home configuration

1 Select Smart Home>Configuration from the left menu in the Ethernet Gateway window.

The Smart Home Configuration window appears; see Figure 61.

Figure 61 **Smart Home Configuration window**



SmartHome>Configuration

Enable IOT GW □

Enable IOT LED ☑

Enable ZWave Module ☑

Enable ZigBee Module ☑

Note: Power cycle the ONT after enable/disable of Zigbee/Zwave modules

- Enable IOT User account
- □

Table 46 describes the fields in the Smart Home Configuration window.

Table 46 **Smart Home Configuration parameters**

Field	Description
Enable IOT GW	Select this checkbox to enable IOT gateway
Enable IOT LED	Select this checkbox to enable IOT LED
Enable Zwave Module	Select this checkbox to enable Zwave
Enable Zigbee Module	Select this checkbox to enable Zigbee

2 Configure the Smart Home parameters.

3 Click Save.

4 STOP. This procedure is complete.

Procedure 53 Smart Home maintenance

1 Select Smart Home>Maintenance from the left menu in the Ethernet Gateway window.

The Smart Home Maintenance window appears; see Figure 62.

Figure 62 Smart Home Maintenance window

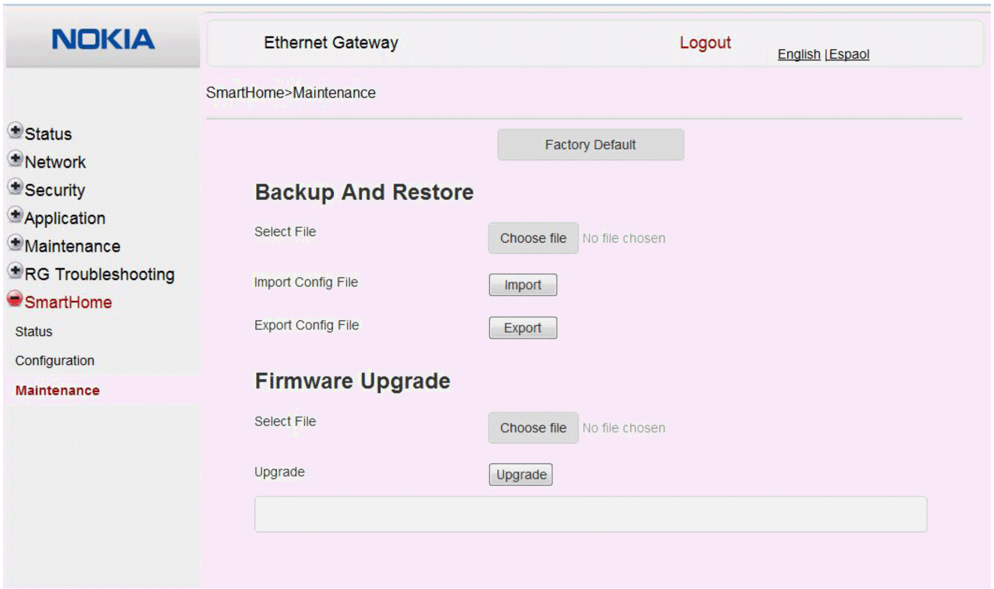


Table 47 describes the fields in the Smart Home Maintenance window.

Table 47 Smart Home maintenance parameters

Field	Description
Factory Default	Click to reset the device to its factory default values
Backup and Restore	
Select File	Select a file from the drop down menu.
Import Config File	Click Import to import the configuration file.
Export Config File	Click Export to export the configuration file.
Firmware Upgrade	
Select File	Select a file from the drop-down menu.
Upgrade	Click Upgrade to upgrade the firmware.

2 Configure the Smart Home maintenance.

3 STOP. This procedure is complete.

8.3 IOT application software package download

The A-240Z-A CPE supports IOT. This section describes how to download the IOT application software package from the Auto Configuration Server (ACS) to the CPE and to activate the software.

The filename for the IOT application software package is 3FE46043XXXXXX. The software image file should be placed on the HTTP server accessible by the CPE.

The format of the URL for downloading the IOT application software package should be “http://<*IP_address*>/3FE46043<*build_version*>, for example:

```
http://192.168.5.142/3FE46043FFEB38
```

Procedure 54 Downloading the IOT application software package

1 Log into the ACS with your username and password.

2 Select the Download RPC method for upgrading the CPE.

3 Provide the HTTP URL and file size to be downloaded.

4 Initiate the download process.

5 Verify that the software package has been downloaded successfully:

a On the ACS, execute the GetParameterValue command on the CPE object:InternetGatewayDevice.X_ALU-COM_SmartHome.lotFirmwareInfo.1.FileName

b On the ACS, execute the GetParameterValue command on the CPE object: InternetGatewayDevice.X_ALU-COM_SmartHome.lotFirmwareInfo.1.IOTDownloadStatus

The status should be DownloadSuccess.

If the status is DownloadFailure, repeat the procedure.

c On the ACS, execute the SetParameterValue command on the CPE object: InternetGatewayDevice.X_ALU-COM_SmartHome.IotGWCtrl.Enable

This will start the IOT application.

6 STOP. This procedure is complete.

Customer document and product support

Customer documentation

Customer Documentation Welcome Page

Technical Support

Customer Documentation Technical Support

Documentation feedback

Customer Documentation Feedback