



# Alcatel-Lucent 9962

Multi-standard Enterprise Cell v1 | LR14 SCM

Hardware Installation and Commissioning

3MN-02001-0002-RJZZA

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# About this document

## Purpose

The purpose of this document is to provide hardware installation instructions for the Alcatel-Lucent 9962 Multi-standard Enterprise Cell v1 Small Cell access point.

Procedures are provided for product handling, placement, powering on and off, and cabling.

## Intended audience

The audience for this document is installation personnel.

## Supported systems

This document applies to the Alcatel-Lucent 9962 Multi-standard Enterprise Cell v1 access point.

## How to use this document

Start with the first chapter and work through the manual to the end. Once you have done this, you will have carried out the hardware installation completely and in the proper sequence. Before installing the product, the installer should be familiar with the safety precautions, warnings, and product conformance statements.

## Safety information

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

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## Conventions used

### Naming Conventions

The full product name, Alcatel-Lucent 9962 Multi-standard Enterprise Cell v1, is referred to as one of the following throughout this manual:

- Alcatel-Lucent 9962 MSEC
- 9962 MSEC v1.0
- MSEC

### Typographical conventions

The following typographical convention is used in this document:

Appearance	Description
<i>Document reference</i> , reference number	Related document that is referenced in the document

## Related information

For information on subjects related to the content of this document, refer to the documents listed in the following table:

Refer to this document	At this location	For more information on
<i>Alcatel-Lucent 9962 Multi-standard Enterprise Cell v1 - Technical Description</i> , 3MN-02001-0003-DEZZA	<a href="http://www.alcatel-lucent.com/">http://www.alcatel-lucent.com/</a>	The 9962 MSEC v1.0: <ul style="list-style-type: none"> <li>• Basic characteristics</li> <li>• Hardware description</li> <li>• Troubleshooting</li> </ul>

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# 1 Safety and general information

## Overview

### Purpose

This chapter provides a generic overview of the standard hazard symbols and statements that are currently used in Alcatel-Lucent documentation, and which may appear in this document.

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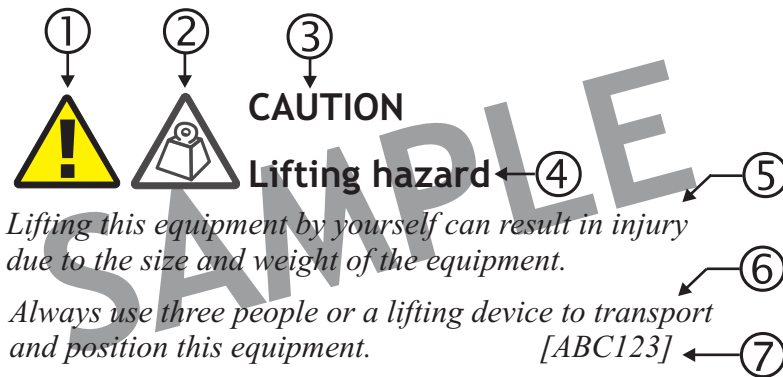
## Structure of safety statements

### Overview

This topic describes the components of safety statements that appear in this document.

### General structure

Safety statements include the following structural elements:



Item	Structure element	Purpose
1	Safety alert symbol	Indicates the potential for personal injury (optional)
2	Safety symbol	Indicates hazard type (optional)
3	Signal word	Indicates the severity of the hazard
4	Hazard type	Describes the source of the risk of damage or injury
5	Safety message	Consequences if protective measures fail
6	Avoidance message	Protective measures to take to avoid the hazard
7	Identifier	The reference ID of the safety statement (optional)

## Signal words

The signal words identify the hazard severity levels as follows:

Signal word	Meaning
DANGER	Indicates an extremely hazardous situation which, if not avoided, will result in death or serious injury.
WARNING	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
CAUTION	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
NOTICE	Indicates a hazardous situation not related to personal injury.

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## General hazard statements

### Purpose

Provides information on general hazard statements that may arise in the course of your work, but are not necessarily related to a specific procedure.



*This equipment generates high leakage current. This can lead to high voltages with respect to ground for accessible parts of the installation. Contact with these parts can cause serious health effects, possibly including death, even hours after the event.*

*This equipment is only suited for permanent connection. Before connecting the power supply, establish a grounding connection.*



*Contact with energized parts can cause serious injury.*

*At least one other trained person must be in attendance, who can immediately and safely disconnect the system if necessary.*

*This second person must be trained in first aid for emergency purposes.*



*There is a danger of electric shock if the grounding system is inadequate.*

*You must comply with the grounding requirements for the grounding system.*



*Contact with energized parts can cause serious injury.*

*Work on energized equipment is only permitted if you are using insulated connection terminals, are adequately trained and follow safe work practices.*

 **WARNING**  
**Electric-shock hazard**

*Contact with energized parts can cause serious personal injury.*

*Seal off the installation area (warning tape, signs) to prevent untrained or unauthorized persons from entering.*

*Follow safe work practices and lockout/tagout procedures.*

 **WARNING**  
**Electric-shock hazard**

*Some parts of all electrical installations are energized. Failure to follow safe work practices and the safety warnings may lead to bodily injury and property damage.*

*For this reason, only trained and qualified personnel (electrical workers as defined in IEC 60215 or EN 60215 + A1 or in the National Electrical Code or in ANSI/NFPA No. 10) may install or service the installation.*

 **WARNING**  
**Laser hazard**

*The light from laser and high-radiance LED's may cause eye damage if absorbed by the retina.*

*In the US consult ANSI Z136.2, in Europe consult IEC-60825 Safety of laser products, for guidance on the safe use of optical fiber communication systems in the workplace.*

 **WARNING**  
**Falling-object hazard**

*Cabinet may tip when it is moved if an obstacle or a downward step is encountered.*

*Do not use dolly wheels if the installation location has an uneven surface, steps etc.*

 **WARNING**  
**Overhead-load hazard**

*Cabinet eyebolts can break, severely damaging the cabinet, if a crane is used to lift the cabinet into an upright position.*

*Ensure that the cabinet is in an upright position before transportation by crane.*



*Inhalation of asbestos fibers can result in serious illness or death.*

*Buildings constructed before 1980 MAY contain asbestos. Buildings constructed before 1970 OFTEN contain asbestos. Potential exposure could occur during routing of cable or wires, removing cables, removing transite or asbestos cement boards, drilling wallboard, transite panels, or floor tiles, removing sprayed-on fireproofing, moving or removing ceiling tiles, installing cable hangers.*

*Do not disturb asbestos. If asbestos is present, ensure potential exposure is controlled by adhering to local asbestos management regulations and follow safe work practices.*



*Condensation can occur in the network element during transport, especially on moving from outside to closed rooms. Condensation can cause malfunctioning of the circuit packs.*

*Ensure that circuit packs and shelves have reached room temperature and are dry before taking them into operation.*



*Tools left in the work area can cause short circuits during operation which can lead to the destruction of units.*

*Make sure after finishing your work that no tools, testing equipment, flashlights, etc., have been left in or on the equipment.*



*Lifting this equipment by yourself can result in injury due to the size and weight of the equipment.*

*Always use three people or a lifting device to transport and position this equipment.*

**NOTICE****Flammable-material hazard**

*The heat vent (grill) at the top of the cabinet can become obstructed, preventing ventilation of the cabinet.*

*Make sure that the airvent is not obstructed and remains clear at all times.*

**NOTICE****ESD hazard**

*Semiconductor components can be damaged by static discharges.*

*The following rules must be followed when handling any module containing semiconductor components:*

- *Wear conductive or antistatic working clothes (for example, a coat made of 100% cotton).*
- *Wear the grounded wrist strap.*
- *Wear shoes with conductive soles on a conductive floor surface or conductive work mat.*
- *Leave the modules in their original packaging until ready for use.*
- *Make sure there is no difference in potential between yourself, the workplace, and the packaging before removing, unpacking, or packing a module.*
- *Hold the module only by the grip without touching the connection pins, tracks, or components.*
- *Place modules removed from the equipment on a conductive surface.*
- *Test or handle the module only with grounded tools on grounded equipment.*
- *Handle defective modules exactly like new ones to avoid causing further damage.*



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## Basic safety aspects

### General safety requirements

In order to keep the technically unavoidable residual risk to a minimum, it is imperative to observe the following rules:

- **DO NOT CONNECT CABLES TO WORKING/LIVE EQUIPMENT. This activity should only be performed by the services/delivery team during integration.**
- Transport, storage, installation, and operation of the system must be under specified permissible conditions only. See accompanying documentation and information on the system.
- Installation, configuration, and disassembly must be carried out only by suitably qualified personnel and with reference to the respective documentation. Due to the complexity of the system, personnel require special training.
- Identify potential hazards prior to starting the installation.
- The system must be operated by trained and authorized users only. The user must only operate the system after having read and understood the chapter on safety and the parts of the documentation relevant to operation. For complex systems, additional training is recommended. Any obligatory training for operating and service personnel must be carried out and documented.
- Follow all instructions marked on the product, including both general instructions and the stated methods for avoiding hazards.
- The system must not be operated unless safety is guaranteed. Any faults and errors that might affect safety must be reported immediately by the user to a person in responsibility.
- The system must only be operated under the environmental conditions and with the connections, described in the documentation.
- Modifications to any part of the system (including software) must be carried out by Alcatel-Lucent or by trained and qualified personnel authorized by Alcatel-Lucent. Unauthorized modifications will lead to a complete exemption from liability. Only components recommended by the manufacturer and listed in the procurement documents should be used.
- The use of non-system software is not recommended. The use/installation of non-system software can adversely affect the normal functioning of the system.
- Only use tested and virus-free data carriers (for example, floppy disks and streamer tapes).
- The removal or disabling of safety facilities, fault clearance, and maintenance of equipment must be carried out by trained and qualified personnel only and in conjunction with the respective documentation. Only approved measuring and test equipment must be used.

- 
- Calibrations, special tests after repairs, and regular safety checks must be carried out, documented, and archived.
  - Follow applicable hazardous waste, electronic scrap, and take-back disposal procedures.

### Other important safety instructions

Observe the following safety instructions, they are of particular importance for your safety:

- Be familiar with evacuation plans and emergency telephone numbers.
- Ensure first-aid kits are available.
- Wear appropriate personal protective equipment (PPE) such as safety glasses, hard hats, gloves, and fall protection.
- Never wear jewelry (rings, bracelets, watches, etc.) when working on or near energized equipment.

### Summary of equipment safety instructions

Observe the following safety instructions while working with the equipment:

- This product is to be installed only in restricted access areas.
- This product should be only operated from the type of power source indicated on the marking label.
- This product must be provided with a readily accessible disconnect device as part of the building installation.
- Installation must include an independent frame ground drop to the building ground. Refer to the Hardware Installation Guide.
- For information on correct mounting instruction, refer to the Hardware Installation Guide.
- Install only equipment identified in the Hardware Installation Guide provided with this product. Use of other equipment may result in improper connection of circuitry leading to fire or injury to persons.
- To reduce the risk of electrical shock, do not disassemble this product. Only trained personnel should install and service this product. Opening or removing covers and/or circuit boards may expose you to dangerous voltages or other risks. Incorrect reassembly can cause electrical shock when the unit is subsequently used.
- Slots and openings in this product are provided for ventilation. To protect the product from overheating, these openings must not be blocked or covered. This product should not be placed in a built-in installation unless proper ventilation is provided

- 
- Never push objects of any kind into this product through slots as they may touch dangerous voltage points or short-out parts that could result in risk of fire or electrical shock. Never spill liquids of any kind on the product. Any telecommunication interfaces should not leave the building premises unless connected to telecommunication devices providing primary and secondary protection, as applicable.
  - Use caution when installing or modifying telecommunication lines.
  - Never install telecommunication wiring during a lightning storm.
  - Never install telecommunication connections in wet locations.
  - Never touch non insulated telecommunication wires or terminals unless the telecommunication line has been disconnected at the interface.



# 2 Alcatel-Lucent 9962 Multi-standard Enterprise Cell v1 installation

## Overview

### Purpose

This chapter describes the installation procedure for the 9962 MSEC v1.0 access point.

### Contents

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<a href="#">Mounting guidelines</a>	2-4
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## Pre-installation information

### Introduction

The Alcatel-Lucent 9962 Multi-standard Enterprise Cell v1, or 9962 MSEC v1.0, is a wireless access point using licensed spectrum delivering improved network reach and increased capacity while offloading traffic from the macro network.

The 9962 MSEC v1.0 supports simultaneous transmission of three different air interface technologies:

- LTE
- WCDMA
- WiFi

As part of the Alcatel-Lucent 9360 Small Cell Solution, it can be deployed in a network supporting a mix of Home and Enterprise cells.

Refer to the *Alcatel-Lucent 9962 Multi-standard Enterprise Cell v1 - Technical Description*, 3MN-02001-0003-DEZZA for complete technical details on the 9962 MSEC v1.0 access point.

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## Device placement

The Alcatel-Lucent 9962 Multi-standard Enterprise Cell v1 has been designed to be deployed in any (and only) indoor environment :

- either in private places such as business offices, warehouses etc,
- either in public places such as supermarkets, shopping malls, airports etc.

The access point and all its components (including cables and power adaptor) have to be placed in a dry area and be kept away from any wet or damp environments; such as lavatories or any other areas with exposure to moisture, sprays, drips, or running water. For the safety of stored data, it must not be placed near magnetic devices such as audio or video tapes.

The 9962 MSEC v1.0 emits a radio signal. The quality of coverage achieved therefore depends upon where the device is placed.

For best results it should be located:

- In a central place within the area in which the product is intended to operate,
- As high as possible, for example, on high shelving, or mounted on a wall.

To improve coverage, avoid installing near the following:

- Other radio transmitters
- Other metallic devices or objects
- Windows

## Product delivery contents

The 9962 MSEC v1.0 is provided in a standard cardboard box. The contents are as follows:

- The 9962 MSEC v1.0 access point
- A wall mounting kit
- A quick start guide/user guide
- A GPS antenna with 10m cable length

## Ancillary items

In addition to the standard delivered parts the following ancillary items are available but must be ordered separately if needed:

- SFP transceivers
- Data cables
- 4p PoE compliant with PoH standard adapter
- AC to DC power adapter
- Lock

- 
- Wall mount stick antenna
  - Jumper type N to SMA cables

### Installation tools required

The following is a list of the tools that may be used during installation:

- Drill and assorted drill bits
- Screwdrivers (power and/or manual)
- Measuring tape
- Marker, to mark wall mounting holes
- Vacuum cleaner or equivalent (required for clearing debris from wall mounting holes)
- Spirit level

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# Mounting guidelines

## Introduction

The 9962 MSEC v1.0 has been designed for an effective plug & play installation. The device is based on single hardware core associated with dedicated wall mounting kit.

This topic describes the procedures to be followed when installing the 9962 MSEC v1.0 access point.

## Prerequisites

A site survey has been conducted and a location for the device has been selected that is both central to the available space and elevated in order to maximize coverage.

Before installation begins you should ensure the following are in place:

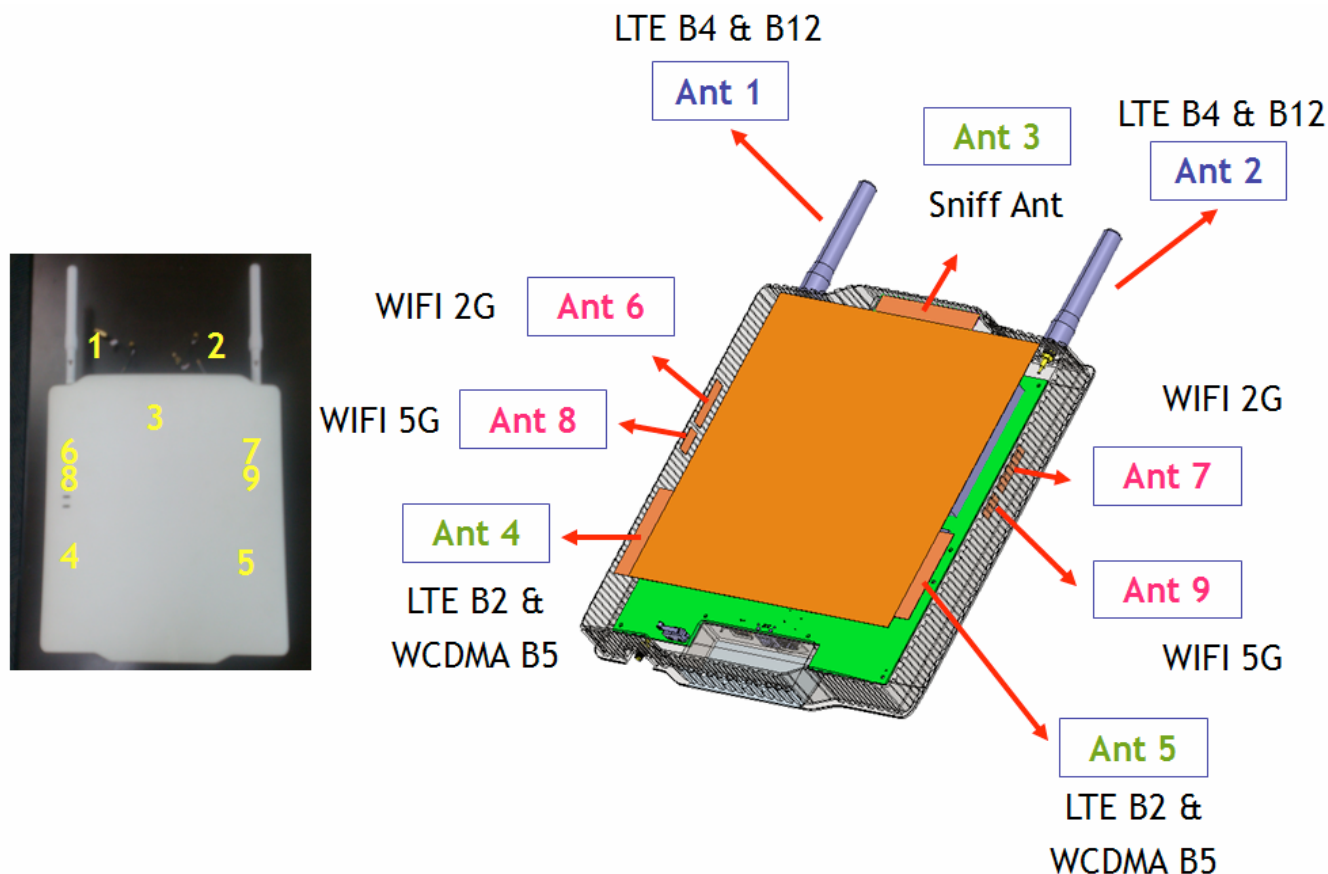
- Internet service is available,
- The Ethernet cable has been routed and is in place,
- Site specific fixing materials according to the mounting (wall or ceiling).

## Mounting characteristics

Radiated patterns of integrated and attached 9962 MSEC v1.0 antennas are optimized for wall mounting installation.



Figure 2-1 9962 MSEC v1.0 antenna



**Attention:** The access point is only supported in the upright orientation with the external antennas pointing upward (not downwards or sideways). The external antennas cannot be flipped. Failure to comply with these requirements would change and degrade the omnidirectional radio frequency pattern.

The wall mounting installation is easy and fast: it takes benefit of the small footprint of the 9962 MSEC v1.0 access point by offering a small visible size and making it inconspicuous.

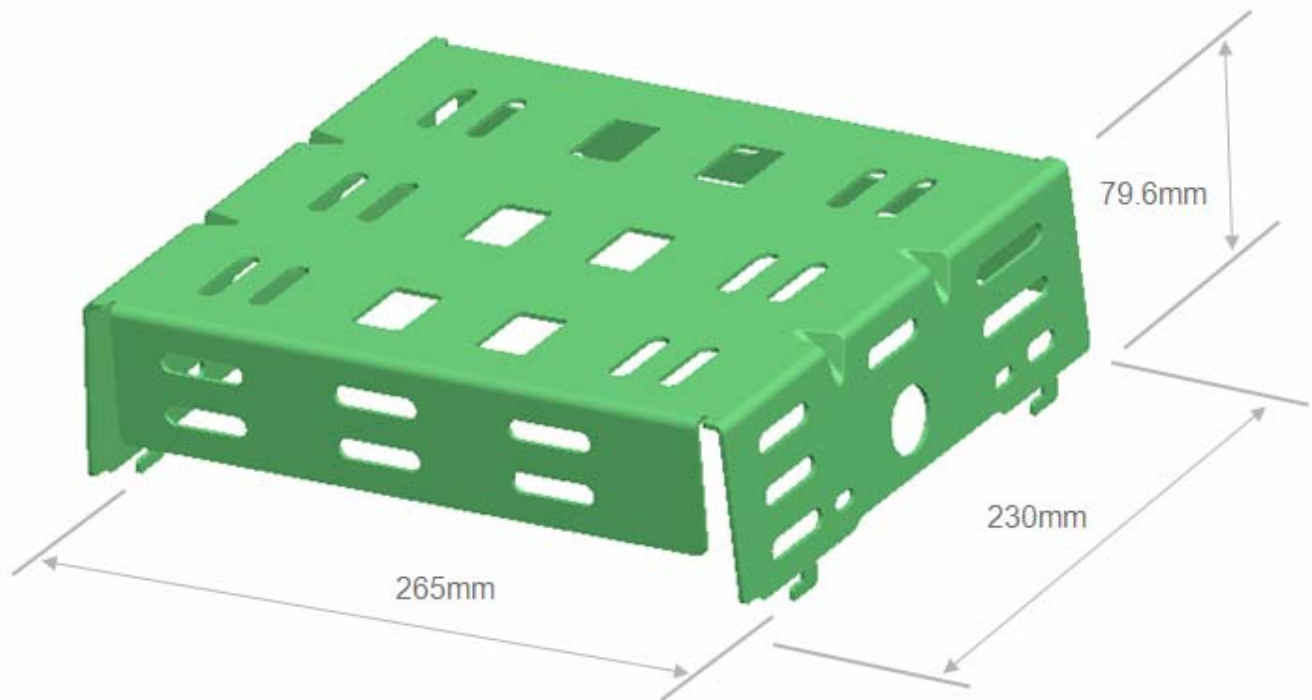
**Important!** Various building materials and construction methods dictate that the device be fastened to the wall with appropriate mounting hardware. It is the responsibility of the customer to provide any necessary support material and structures to ensure that the installation will be in compliance with Building Officials and Code Administrators (BOCA), Uniform Building Code (UBC), and all local codes.

## Mounting plate

The 9962 MSEC v1.0 requires a mounting plate to be installed onto the wall.

The following figure illustrates the mounting plate.

**Figure 2-2 9962 MSEC v1.0 mounting plate**



## Before you begin

**Note:** Record the 18 digit serial number before mounting the 9962 MSEC v1.0 access point.

## Mount to wall



*Falls can occur when working at heights resulting in serious personal injury or death.*

*To prevent a fall when working at heights (ladder, scaffold, manlift, roof etc.) follow safe work practices and wear appropriate fall protection equipment.*

To mount the device onto a wall, perform the following steps:

- 1 At the selected installation location, mark the points on the flat surface for the four (4) fixing holes, using the holes in the mounting plate as a guide.

Check the horizontal position with a spirit level.

- 2 Drill holes at the marked points, and insert wall plugs into the fixing holes.

- 3 Attach the mounting plate to the wall using appropriate screw fixings.

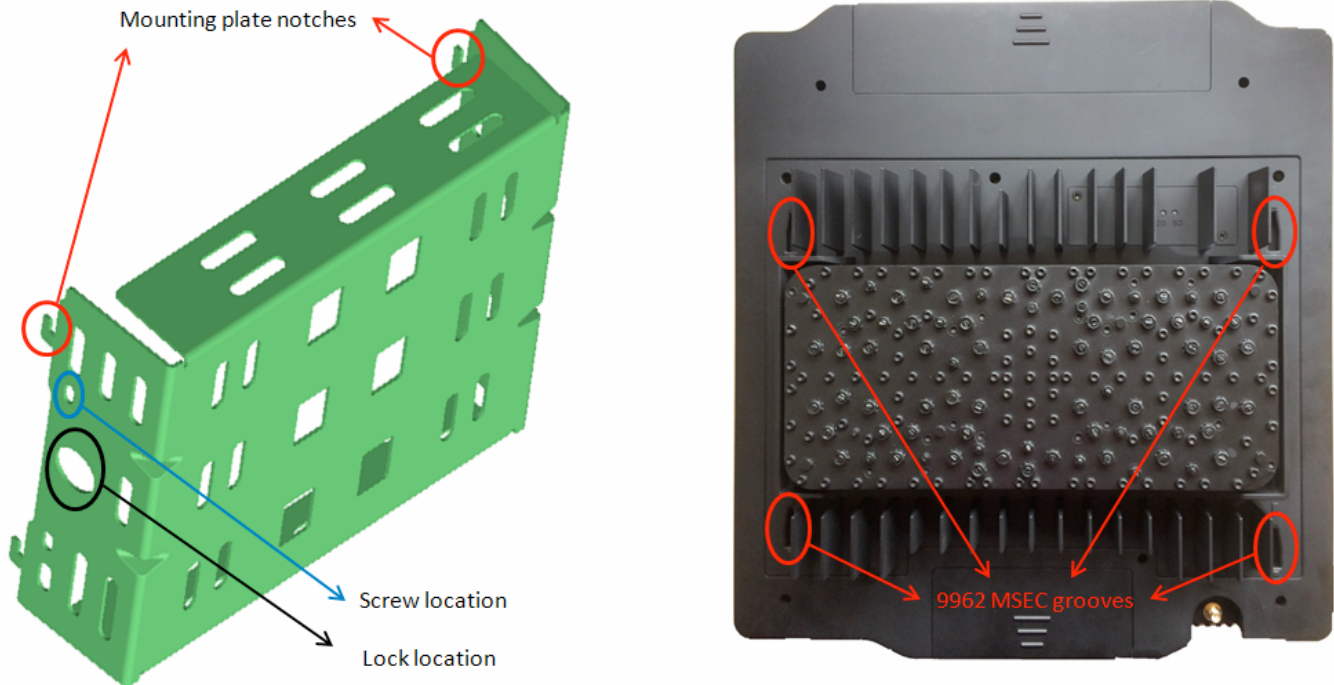
**Note:** Depending on the wall the device must be mounted to, different screw fixings might be needed. After site survey, these mounting accessories must be procured locally.

- 4 Connect the cables.

- 5 Attach the 9962 MSEC v1.0 to the mounting plate as follows:

1. Line up the four grooves in the back of the 9962 MSEC v1.0 with the four notches protruding from the mounting plate.

The following graphic shows the notches and the lock location on the mounting plate and the grooves in the back of the 9962 MSEC v1.0:

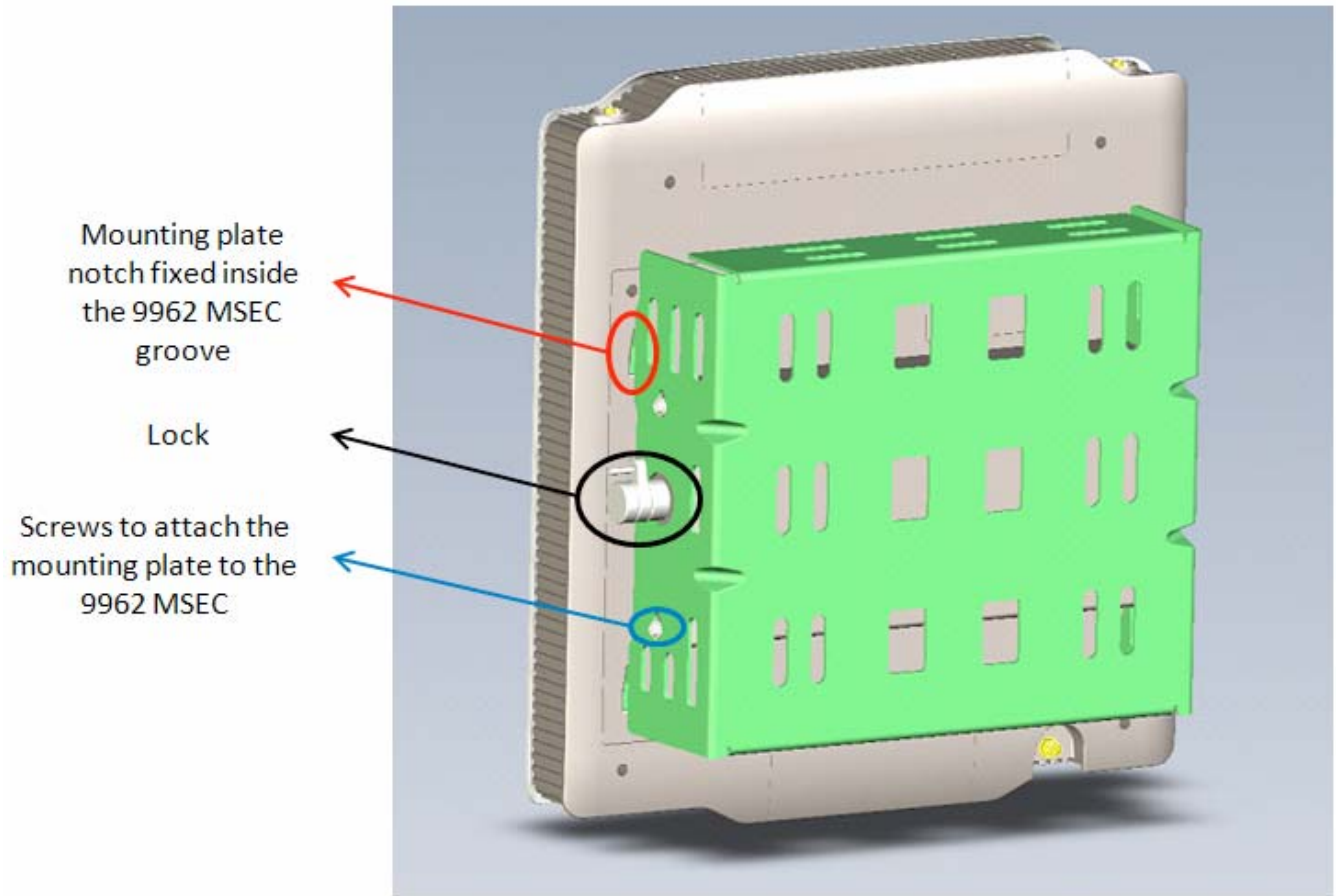
**Figure 2-3 Notch, groove and lock locations**

2. Push the 9962 MSEC v1.0 downwards to lock it into position.
3. Then screw four (4) screws to attach the 9962 MSEC v1.0 to the mounting plate.

- 6 If locks have been ordered by the customer, attach the lock to secure the 9962 MSEC v1.0 from removing of the mounting plate.

The following graphic shows the mounting plate attached to the back of the 9962 MSEC v1.0:

Figure 2-4 Mounting plate on the 9962 MSEC v1.0 access point



END OF STEPS

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## Cabling

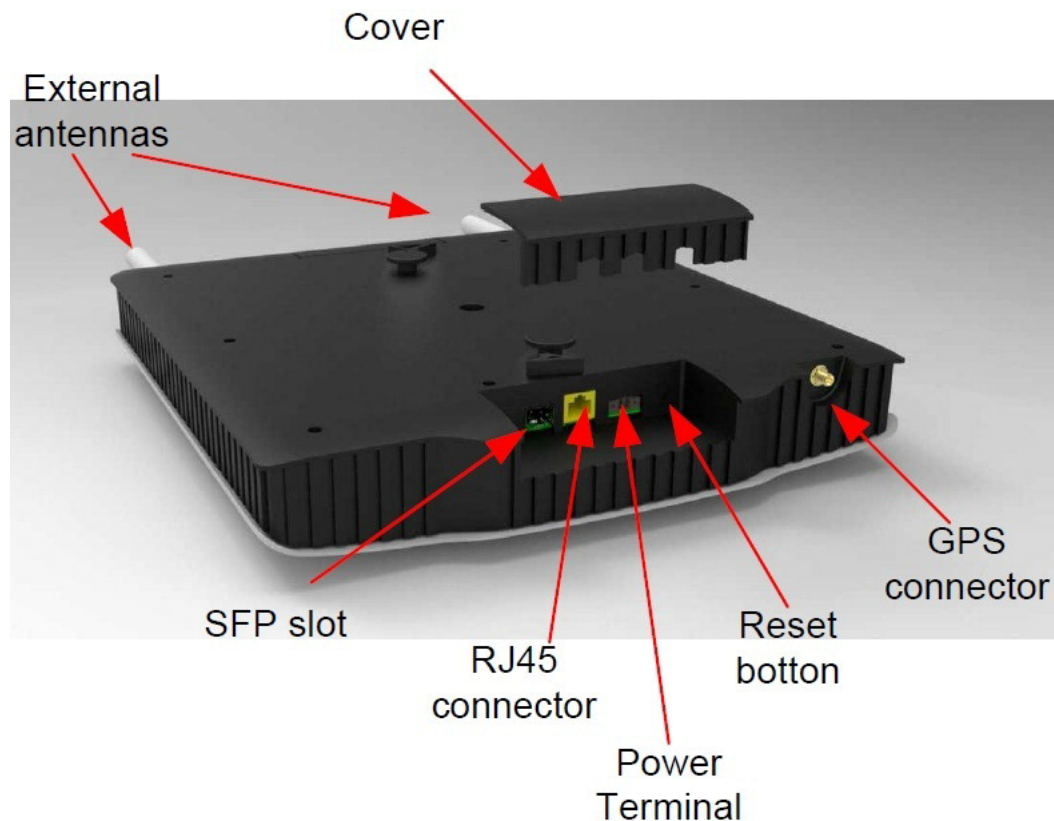
### Purpose

This topic describes the procedures to be followed when connecting the 9962 MSEC v1.0 cables.

### Cable connectors

The following picture shows the positions of the different physical connectors and antennas on the 9962 MSEC v1.0 access point:

**Figure 2-5 9962 MSEC v1.0 connectors and antennas**



The 9962 MSEC v1.0 access point provides two GE ports for backhaul and daisy chain (refer to [“Daisy chain”](#) (p. 2-13) for details about the daisy chaining).

One of those ports provides a RJ45 connector and the second port a SFP slot.

If the SFP port is already used, it is possible to use the RJ45 port with an adapted SFP.

## Power supply and backhaul options

The 9962 MSEC v1.0 access point can be powered through:

- DC input power with an AC-DC power adapter including an appropriate Jack,
- or 4p PoE compliant with PoH standard (following IEEE 802.3 at Power over Ethernet standard).

If PoE compliant with PoH standard is used to supply the power then a PoE injector or a PoE capable router can be used.

### Data cables

Each 9962 MSEC v1.0 access point requires at least one data cable to connect the backhaul. In case of daisy chain, an additional data cable is required (refer to [“Daisy chain”](#) (p. 2-13)).

The data cable can be a standard Ethernet cable with RJ45 connector or a fiber cable with an optical transceiver.

## Before you begin

Ensure the 9962 MSEC v1.0 access point has been correctly installed.

## Connect the 9962 MSEC v1.0 cables

- 1 According to the configuration on site, select the appropriate option in the following table, and perform the associated procedure:

If you want to...	Then ...
Use an AC-DC power adaptor and a standard router,	Go to <a href="#">“Connect to a standard DSL router”</a> (p. 2-11) and <a href="#">“Connect the AC-DC power adapter”</a> (p. 2-12)
Use PoE supplied by a DSL router with PoE function,	Go to <a href="#">“Connect to a DSL router with PoE function”</a> (p. 2-12)

END OF STEPS

## Connect to a standard DSL router

To connect the 9962 MSEC v1.0 to a standard DSL router using an Ethernet cable through which power is not supplied, perform the following steps:

- 1 Route the Ethernet cable from the 9962 MSEC v1.0 to a standard DSL router.

- 2 Connect one end of the Ethernet cable to the 9962 MSEC v1.0.
- 3 Connect the other end of the Ethernet cable to the router.
- 4 Finally, secure the Ethernet cable to the wall.

END OF STEPS

### Connect the AC-DC power adapter

If you intend to use an AC-DC power adapter to supply power to the 9962 MSEC v1.0, perform the following steps:

- 1 Route the power supply cable from the 9962 MSEC v1.0 to the supplied AC-DC power adapter.
- 2 Connect the power supply cable to the 9962 MSEC v1.0.
- 3 Finally, secure the power supply cable to the wall.

END OF STEPS

### Connect to a DSL router with PoE function

To connect the 9962 MSEC v1.0 to a DSL router with PoE function, perform the following steps:

- 1 Route the Ethernet cable from the 9962 MSEC v1.0 to a DSL router with PoE function.
- 2 Connect one end of the Ethernet cable to the 9962 MSEC v1.0.
- 3 Connect the other end of Ethernet cable to the router.



- 
- 
- 4 Finally, secure the Ethernet cable to the wall.

END OF STEPS

---

### Connect to the GPS antenna

The GPS antenna is used for synchronization purpose. Perform the following steps to connect the 9962 MSEC v1.0 to the GPS antenna:

- 
- 1 Route the GPS antenna cable to the 9962 MSEC v1.0 access point.
  - 2 Connect the GPS antenna cable to the dedicated SMA connector in the 9962 MSEC v1.0.
  - 3 Finally, secure the GPS antenna cable to the wall.

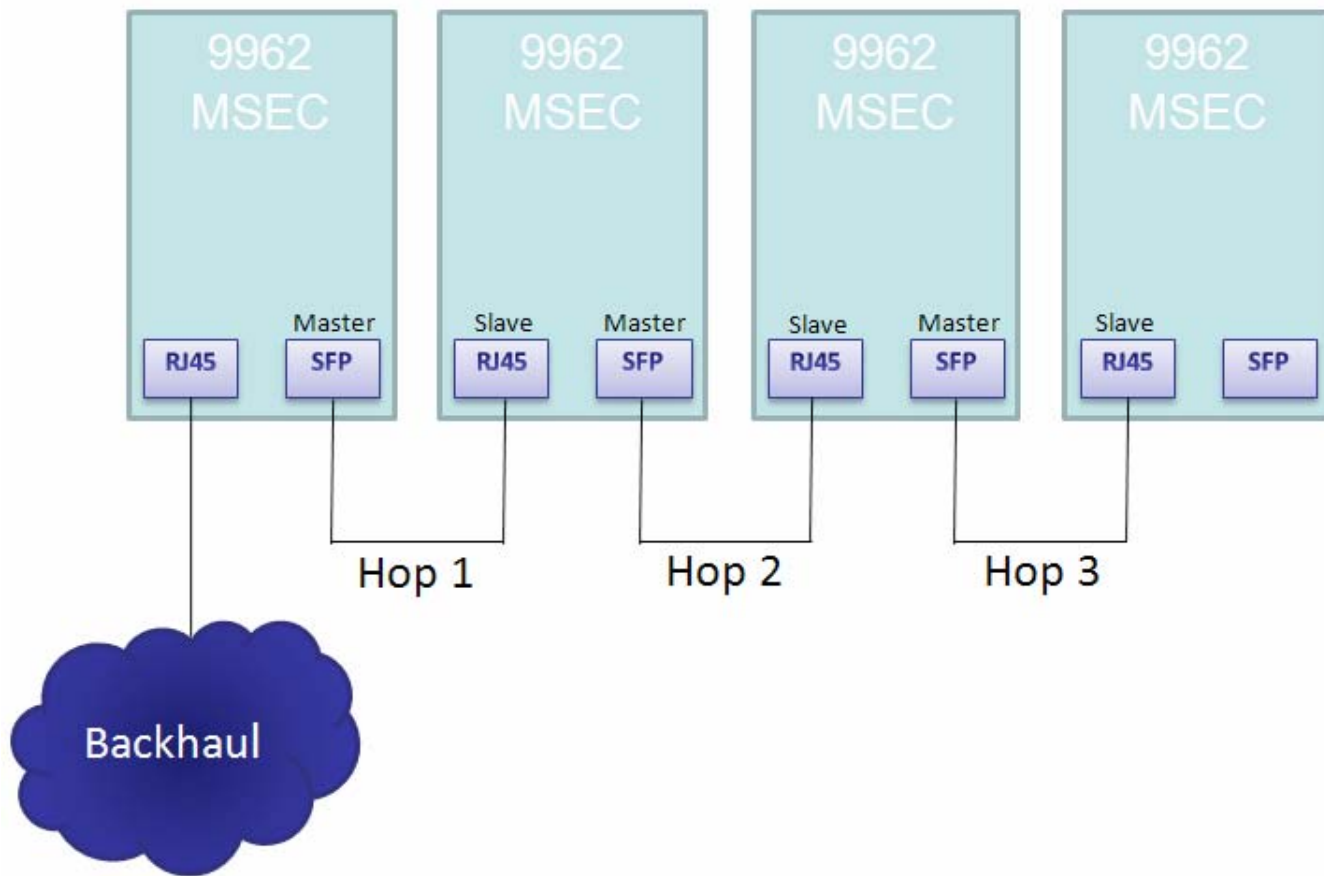
END OF STEPS

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### Daisy chain

The 9962 MSEC v1.0 access point can be linked in a daisy chain with up to eight devices. The daisy chain hop is set by connecting the SFP slot of the “Master” access point to the RJ45 port of the “Slave” access point. Therefore, the “Master” SFP slot must be equipped with an appropriate RJ45 SFP .

Figure 2-6 Example of 4 9962 MSEC v1.0 daisy chain



# 3 Alcatel-Lucent 9962 Multi-standard Enterprise Cell v1 commissioning

## Overview

### Purpose

This chapter describes the 9962 MSEC v1.0 commissioning process. The 9962 MSEC v1.0 is self commissioning in the case of single device deployments.

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# Commissioning process

## Overview

The 9962 MSEC v1.0 supports the following technology combinations:

- One cell of LTE,
- One cell of WCDMA,
- One cell of LTE plus one cell of WCDMA.

In any of these configurations the 9962 MSEC v1.0 simultaneously supports WiFi thanks to the integrated Motorola WiFi module that supports 802.11n operation.

GPS is the primary frequency reference source and is used whenever satellite signal is available, fallback is to NTP.

## Purpose

This section outlines the 9962 MSEC v1.0 zero-touch commissioning process.

## Related information

If any problems occur during the commissioning process refer to the following document for more details:

- *Alcatel-Lucent 9962 Multi-standard Enterprise Cell v1 - Technical Description*, 3MN-02001-0003-DEZZA

## Before you begin

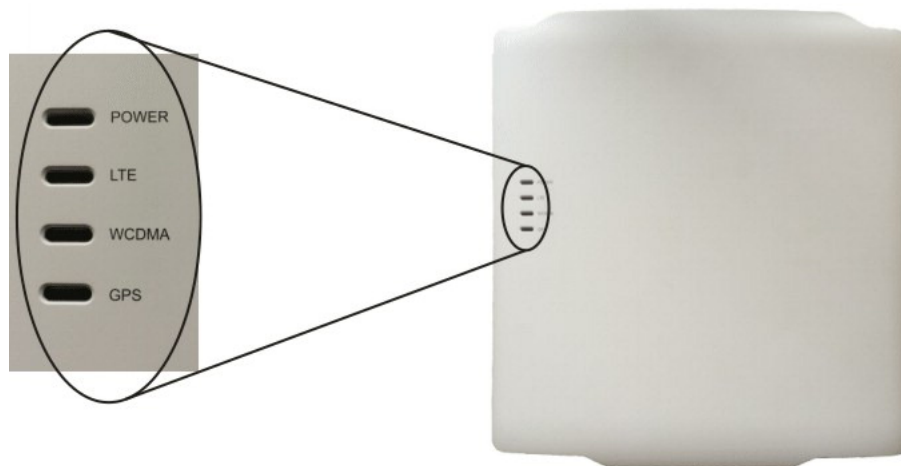
The 9962 MSEC v1.0 is intended to be installed and then left unattended so the LED pattern activated in the commissioning process is mainly focused on indicating that the installation and initial network connection have succeeded and that the access point is properly functioning.

## 9962 MSEC v1.0 access point commissioning

---

- 1 Power on the 9962 MSEC v1.0 access point. All LEDs (Power, LTE, WCDMA and GPS) are solid red: if the software fails to start, the LEDs remain in this condition. Otherwise the LEDs indicate the progress of the initialization of the unit.

Figure 3-1 9962 MSEC v1.0 front LEDs



- 2 After approximately 2 minutes the 9962 MSEC v1.0 access point will initialize and establish IPsec connectivity. During this operation the Power status indicator will blink slowly. Only red at the beginning then toggling red/green once the access point attempts to contact DNS Internal for HDM/SAM address resolution.
- 3 After the 9962 MSEC v1.0 access point has established a network connection it will automatically update its software and configuration database. This process takes approximately 15 minutes. During this operation the Power indicator will blink green.
- 4 Once the software update has completed the 9962 MSEC v1.0 access point will carry out an automatic reboot. During reboot the Power indicator will still be blinking green.
- 5 The access point is ready to enable applications and the Power indicator is solid green.
- 6 The 9962 MSEC v1.0 access point starts looking for a GPS signal: the GPS LED is blinking red.  
**Important!** If GPS signal is not available, the GPS LED turns off.
- 7 A soon as the GPS signal is acquired, the GPS LED goes solid green.

8	If the access point configuration ...	Then ...
	supports one LTE cell	go to “ <a href="#">LTE commissioning</a> ” (p. 3-4)
	supports one WCDMA cell	go to “ <a href="#">WCDMA commissioning</a> ” (p. 3-4)
	supports WiFi	go to “ <a href="#">WiFi commissioning</a> ” (p. 3-5)

- 9 After the 9962 MSEC v1.0 access point has been in a normal system state for fifteen minutes, all the non-WiFi LEDs are turned off to avoid bringing attention to the unit. They remain off until one of them changes to an Off-Normal state. As the WiFi LEDs are managed by the WiFi module they are not included in this procedure but turned off in a separate procedure after thirty minutes in the same state.

END OF STEPS

## LTE commissioning

- 1 The 9962 MSEC v1.0 access point starts its LTE auto-configuration and self optimisation of the radio access. During this operation the LTE status indicator will blink red/green until the service is operational marked by a solid green LTE status indicator.

**Important!** In case the configuration supports only one LTE cell, the WCDMA LED is off. If the configuration enables LTE and WCDMA concurrent operation, the LTE and WCDMA commissioning proceed simultaneously.

- 2 Return to the [Step 8](#).

END OF STEPS

## WCDMA commissioning

- 1 The 9962 MSEC v1.0 access point starts its WCDMA auto-configuration and self optimisation of the radio access. During this operation the WCDMA status indicator will blink red/green until the WCDMA service is operational marked by a solid green WCDMA status indicator.

**Important!** In case the configuration supports only one WCDMA cell, the LTE LED is off. If the configuration enables WCDMA and LTE concurrent operation, the WCDMA and LTE commissioning proceed simultaneously.

- 2 Return to the [Step 8](#).

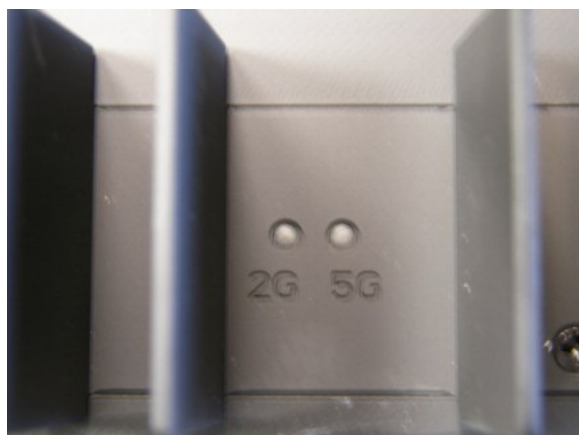
END OF STEPS

## WiFi commissioning

The 9962 MSEC v1.0 integrated WiFi module manages the WiFi LEDs located at the rear of the access point.

- 1 As soon as the access point is powered on, the 9962 MSEC v1.0 starts booting and the WiFi LEDs are solid on.

**Figure 3-2 9962 MSEC v1.0 WiFi LEDs**



- 2 Then the 9962 MSEC v1.0 tries to get adopted by the controller and the 5GHz LED starts blinking slowly. The 2GHz LED related to the 2.4GHz frequency is off.
- 3 The controller pushes the configuration. During this operation the both WiFi LEDs will blink quickly until the service is operational marked by a slow blinking WiFi status indicator.

The WiFi service may be operational on a single frequency (2.4GHz or 5GHz) or simultaneously on the both frequencies.

- 
- 
- 4 Return to the [Step 9](#).

END OF STEPS

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# 4 Post-installation activities

## Overview

### Purpose

This chapter describes the post-installation activities and checks.

### Contents

<a href="#">Post-installation information</a>	4-2
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## Post-installation information

### Final installation checks

Before leaving the installation site, carry out the following:

- 1 Secure all cables along their routes.  
.....
- 2 Verify that all the exterior conduit and cable connections are secure.  
.....
- 3 Inspect the site and remove all loose tools, materials, and parts.  
.....

END OF STEPS  
.....

# Appendix A: Product conformance statements

## Overview

### Purpose

This appendix provides the product conformance statements relating to the Alcatel-Lucent 9962 MSEC v1.0.

### Contents

<a href="#">United States</a>	<a href="#">A-1</a>
<a href="#">Environmental requirements</a>	<a href="#">A-2</a>

## United States

### Introduction

The statements that follow are the product conformance and eco-environmental statements that apply to the 9962 MSEC v1.0 when deployed in the United States.

### Federal Communications Commission

**Important!** Changes or modifications not expressly approved by Alcatel-Lucent, Inc. could void the user's authority to operate the equipment.

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

- This device may not cause harmful interference
- This device must accept any interference received, including interference that may cause undesired operation.

## Packaging collection recovery requirements

Countries, states, localities, or other jurisdictions may require that systems be established for the return and/or collection of packaging waste from the consumer, or other end user, or from the waste stream. Additionally, reuse, recovery, and/or recycling targets for the return and/or collection of the packaging waste may be established.

For more information regarding collection and recovery of packaging and packaging waste within specific jurisdictions, please contact the Alcatel-Lucent Field Services / Installation - Environmental Health and Safety organization.

For technical support, contact your local Alcatel-Lucent customer support team. See the Alcatel-Lucent Support web site <http://www.alcatel-lucent.com/support/> for contact information.

## Environmental requirements

### Environmental factors

The installation location requires the following environmental factors to be controlled:

- Temperature
- Humidity
- Ventilation

### Environmental limits

The atmosphere in the room that houses the device must be maintained within the following limits:

Environmental factor	Requirement	Range
Operating temperature	Normal Operation	-5°C to 50°C (23°F to 122°F) <ul style="list-style-type: none"> <li>• Telcordia GR-63-CORE</li> <li>• Telcordia GR-3108-CORE</li> <li>• ANSI ATIS-0600010.2007</li> </ul>
	Cold start-up	
Operating relative humidity	Condensing	5% to 90% <ul style="list-style-type: none"> <li>• Telcordia GR-63-CORE</li> <li>• Telcordia GR-3108-CORE</li> <li>• ANSI ATIS-0600010.2007</li> </ul>

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Environmental factor	Requirement	Range
	Ingress protection	NEMA Level 1 IP2X of IEC 60529
Operating altitude		0 to 4000m (13 000ft)
Vibration	NAR	Telcordia GR-63-CORE sections 4.4.4 & 5.4.2
	Earthquake	Richter scale 7



# Glossary

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## Numerics

**4p PoE**  
4 pair Power over Ethernet

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**A AC**  
Alternative Current

---

**D DC**  
Direct Current

**DNS**  
Domain Name Server

**DSL**  
Digital Subscriber Line

---

**E EU**  
European Union

---

**G GE**  
Giga Ethernet

**GPS**  
Global Positioning System

---

**H HDM**  
Home Device Manager

---

**I IP**  
Internet Protocol

---

---

---

**L**     **LTE**  
Long Term Evolution - 4G

---

**N**     **NAR**  
North America

**NTP**  
Network Time Protocol

---

**P**     **PoE+**  
Power over Ethernet

**PoH**  
Power-on Hours

---

**R**     **RNC**  
Radio Network Controller

---

**S**     **SAM**  
Service Activation Manager

**SFP**  
Small form-factor pluggable

---

**W**     **WCDMA**  
Wideband Code Division Multiple Access

**WiFi**  
Wireless Fidelity (IEEE 802.11b wireless networking)



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## **Federal Communication Commission Interference 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.

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 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.

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

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Note: The country code selection is for non-US model only and is not available to all US model. Per FCC regulation, all WiFi product marketed in US must fixed to US operation channels only.

Operations in the 5.15-5.25GHz band are restricted to indoor usage only.

### **Radiation Exposure Statement:**

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.