

BACK COVER

FRONT COVER

- NOTE: UNLESS OTHERWISE SPECIFIED
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 - ▲ IS CRITICAL DIMENSION
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NET6-538900B

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DRN BY	<i>Kimi Hsieh</i>	05/13/11'	81 ~ 200	±0.08	±0.12	±0.25	±0.5	±1.0
DSN BY	<i>謝錦賢</i>	06/23/11'	201 ~ 400	±0.12	±0.2	±0.3	±1.0	±2.0
CKD BY	<i>文錫岳</i>	06/23/11'	401 ~	±0.2	±0.3	±0.4	±1.5	±4.0
PART NAME			PART NO.		5013191200			
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3JR09121AAAA-R			1 OF 1		REV. 00		A1	

<附件>



Alcatel-Lucent 9363

Metro Cell - Indoor V2 2100MHz and 1900/850MHz

Installation and commissioning

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Contents



About this document

Purpose	vii
Reason for revision	vii
New in this release	vii
Intended audience	vii
Supported systems	vii
How to use this document	viii
Safety information	viii
Prerequisites	viii
Conventions used	viii
Related information	viii
Document support	ix
Technical support	ix
How to order	ix
How to comment	ix

1 Safety statements

Overview	1-1
Structure of safety statements	1-2
Safety	1-4
Safety - specific hazards	1-5
Product safety	1-8

2 Product overview

Overview	2-1
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Contents

	Functional description	2-2
	Physical description	2-5
3	Metro Cell installation and commissioning	
	Overview	3-1
	Pre-installation information	3-2
	To mount the hardware to a wall or ceiling	3-4
	Metro Cell - Indoor cabling	3-8
	Metro Cell - Indoor commissioning process	3-14
	Post installation activities and checks	3-15
4	Product specifications	
	Overview	4-1
	Environmental and regulatory specifications	4-2
A	Metro Cell - Indoor wall mount spacer	
	Overview	A-1
	Wall mount spacer	A-2
B	Product conformance statements	
	Overview	B-1
	European Union	B-2
	United States	B-6

Glossary

Index



List of figures

2-1	Alcatel-Lucent 9363 Metro Cell - Indoor	2-2
2-2	Alcatel-Lucent 9363 Metro Cell - Indoor (2100 MHz variant)	2-5



About this document

Purpose

The purpose of this document is to provide hardware installation instructions for the Alcatel-Lucent 9363 Metro Cell - Indoor V2 2100MHz. and 1900/850MHz.

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

Reason for revision

The reissue reasons are:

Issue number	Issue Date	Reason for reissue
1	May 2011	Standard issue

New in this release

New features:

- None

Other changes:

- None

Intended audience

The audience for this document is Installation personnel.

Supported systems

This document applies to the Alcatel-Lucent 9363 Metro Cell - Indoor V2 2100MHz and 1900/850MHz

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.

Prior to 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.

Prerequisites

None

Conventions used

Vocabulary conventions

None

Typographical conventions

None

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 W-CDMA System - Safety Guide</i> , 401-382-880	http://support.alcatel-lucent.com .	Safety guidelines and the catalog of hazard statements that appear in the Alcatel-Lucent W-CDMA customer documents.
<i>Alcatel-Lucent 9364 Metro Cell Indoor and Outdoor Troubleshooting</i> , 401-387-076	http://support.alcatel-lucent.com .	Troubleshooting procedures for the Metro Cell Indoor
Standard for Installation of Lightning Protection Systems, NFPA		Lightning protection systems

Refer to this document	At this location	For more information on
Recommended Practices on Surge Voltages in Low Voltage AC Power Circuits, IEEE C62.41 (Latest Edition)		Power

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About this document



1 Safety statements

Overview

Purpose

This chapter provides general information on the structure of safety instructions and summarizes general safety requirements.

General safety and residual risk

The equipment has been developed in line with state-of-the-art technology and conforms with current national and international safety requirements.

The equipment is considered safe during normal operation when safe working practices are complied with. However, hazards may arise if procedures are not followed correctly or safe working practices are not complied with.

Contents

Structure of safety statements	1-2
Safety	1-4
Safety - specific hazards	1-5
Product safety	1-8

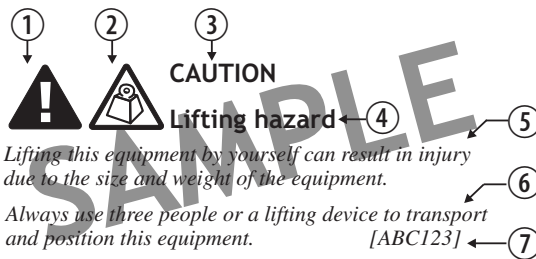
Structure of safety statements

Overview

Safety statements describe the safety risks relevant while performing tasks on Alcatel-Lucent products during deployment and/or use. Failure to avoid the hazards may have serious consequences.

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.

Safety

General precautions for installation procedures



WARNING

Failure to observe these safety precautions may result in personal injury or damage to equipment.

- *Read and understand all instructions.*
- *Follow all warnings and instructions marked on this product.*
- *Installation and maintenance procedures must be followed and performed by trained personnel only.*
- *The equipment must be provided with a readily accessible disconnect device as part of site preparation.*
- *Grounding and circuit continuity is vital for safe operation of the equipment. Never operate the equipment with grounding/bonding conductor disconnected.*
- *Install only equipment identified in the product's installation manual. Use of other equipment may result in an improper connection which could lead to fire or injury.*
- *Use caution when installing or modifying telecommunications lines.*
- *The product has multiple power inputs. Before servicing, Disconnect all inputs to reduce the risk of energy hazards.*
- *For continued protection against risk of fire, all fuses used in this product must be replaced only with fuses of the same type and rating.*
- *Never install telecommunications wiring during a lightning storm.*
- *Never install telecommunications connections in wet locations.*
- *Never touch uninsulated wiring or terminals carrying direct current or ringing current, and never leave this wiring exposed. Protect and tape uninsulated wiring and terminals to avoid risk of fire, electrical shock, and injury to personnel.*
- *Never spill liquids of any kind on the product.*
- *To reduce the risk of an electrical shock, do not disassemble the product. Opening and 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.*

Safety - specific hazards



Working in severe weather can result in personal injury or death and damage to the equipment.

Never install or perform maintenance during severe weather (high winds, lightning, blizzards, hurricane etc.).



Use of unspecified cleaning agents can result in personal injury.

Use only specified cleaning agents. Never use flammable solvents.

Always ensure there is adequate ventilation in the work area and wear the appropriate personal protective equipment.



Some parts of all electrical installations are energized. Failure to observe this fact 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 + A1 or EN 60215) may install or service the installation.



The power supply lines to the network element are energized. Contact with parts carrying voltage can cause health problems, possibly including death, even hours after the event.

Open and lockout the load disconnect switch in the distribution box to completely de-energize the network element.



This product may be connected to an AC main power supply and may contain an internal battery supply. Disconnecting one power source may not de-energize the system, and can lead to serious injury.

Disconnect and lock out the AC main power supply, if present, and the internal battery supply, if present, before servicing the equipment.



Semiconductor devices can be damaged by electrostatic discharges.

The following rules must be complied with when handling any module containing semiconductor components:

- *Wear conductive or antistatic working clothes (for example, 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.*

NOTICE

Condensation

Sudden changes in the weather may lead to the formation of condensation on components. Operating the unit when condensation moisture is present can destroy the unit.

Units which show signs of condensation must be dried before installation.

NOTICE

Tools

Tools left in the working 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.



CAUTION

Hot-surface hazard

Touching a hot heater may cause burns.

Do not touch the heaters.

Before touching the units wait until they have cooled down, wear safety gloves and clothes.



NOTICE

Corrosive-substance hazard

Cleaning plastic containers and lids with abrasive and aggressive cleaning agents may cause permanent damage.

Do not use solvents, paraffin, abrasive or aggressive cleaning fluids, abrasive or aggressive antiseptic agents or abrasive or aggressive materials.



NOTICE

Service-disruption hazard

Cleaning with water or a high-pressure cleaner will damage the components in the cabinet.

The washing down of the equipment or cabinet with water or a high-pressure cleaner is not permitted.



WARNING

Fall hazard

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.

Product safety

Equipment safety

Safety information for this equipment can be found on various Caution, Warning, Danger, information labels or instructions affixed to or included with the cabinet, its internal assemblies or included within this document. Informational and cautionary labels may appear near the item they address or may be grouped in a single location on the equipment. Warnings are typically adjacent to the hazard that is noted on the label. The instructions, cautions and warnings found on these labels must be understood and observed by all personnel involved with the equipment installation and maintenance.



2 Product overview

Overview

Purpose

This chapter provides an overview of the Alcatel-Lucent 9363 Metro Cell - Indoor.

Contents

Functional description	2-2
Physical description	2-5

Functional description

General description

The 9360 Small Cell solution has been developed to handle the increased demand of solutions to efficiently address the residential fixed and mobile market.

The Alcatel-Lucent 9363 Metro Cell - Indoor is a public area wireless access node that collapses the traditional 3G Node B and RNC functions into a single small unit.

Figure 2-1 Alcatel-Lucent 9363 Metro Cell - Indoor



Back view

Front view

Product deployment

The product can be deployed by mobile operators to provide a transparent indoor capacity layer to complement the macro cell “umbrella” coverage layer. In the case of private locations, such as coffee shops or restaurants, the Metro Cell may be privately owned and may be deployed by building owners or local governments but remain controlled by the operator using their spectrum resources.

V2 product description

Two variants of the Metro Cell - Indoor exist:

- 2100 MHz
- 1900/850 MHz

Metro Cell - Indoor 2100 MHz

This table lists the characteristics of the 2100 MHz variant.

Metro Cell Indoor	Features			
	Frequency	Power	User capacity	Characteristics
V2	Frequency Band: 2100 MHz 3G Sniffer Frequency band: 900/2100 MHz 2G Sniffer Frequency bands: 900/1800 MHz	Power can be supplied via: <ul style="list-style-type: none"> • The router or a PoE+ injector • 48V DC power adaptor Power consumption is maximum 25W and typically 20W	Supports up to 32 users with full speed HSPA (14.4 Mbps L1 HSDPA bearer and 5.7 Mbps L1 HSUPA bearer)	Supports Rx space diversity Maximum transmit power of 250 mW at antenna connector (enabling wider cell coverage) Temperature range: -5 to +45 °C Wall mounted or false ceiling installation options, vertically or horizontally

Metro Cell 1900/850 MHz

This table lists the characteristics of the 1900/850 MHz variant.

Metro Cell Indoor	Features			
	Frequency	Power	User capacity	Characteristics
V2	Frequency Band: 1900 and 850 MHz 3G Sniffer Frequency band: 1900/850 MHz 2G Sniffer Frequency bands: 1900/850 MHz	Power can be supplied via: <ul style="list-style-type: none"> The router or a PoE+ injector 48V DC power adaptor Power consumption is maximum 25W and typically 20W	Supports up to 32 users with full speed HSPA (14.4 Mbps L1 HSDPA bearer and 5.7 Mbps L1 HSUPA bearer)	Supports Rx space diversity Assisted GPS capability for localization of the unit Maximum transmit power of 250 mW at antenna connector (enabling wider cell coverage) Temperature range: -5 to +45 °C Wall mounted or false ceiling installation options, vertically or horizontally

Installation options

The Alcatel-Lucent 9363 Metro Cell - Indoor is designed to be used indoors can be installed using the following options:

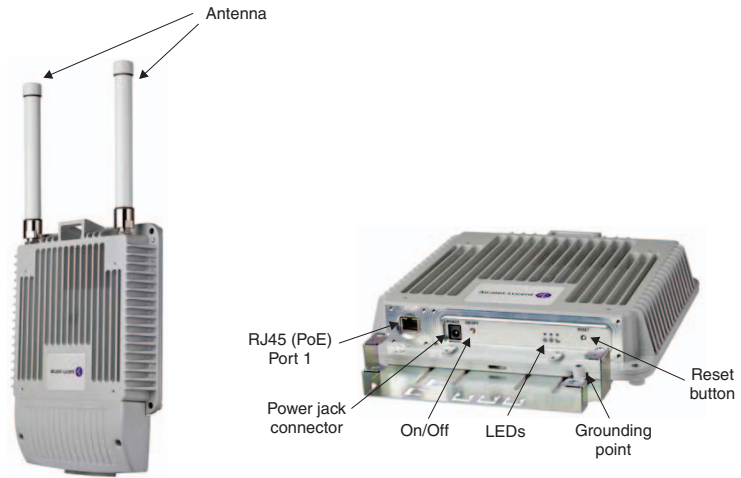
- wall mounted
- in a false ceiling

Physical description

Product overview

The Alcatel-Lucent 9363 Metro Cell - Indoor is housed in an Alcatel-Lucent generic metallic case with a pair of antenna connectors located at the top of the device for external antennas, as shown below:

Figure 2-2 Alcatel-Lucent 9363 Metro Cell - Indoor (2100 MHz variant)



Note: The Alcatel-Lucent 9363 Metro Cell - Indoor 1900/850 MHz variant will have a second Ethernet port and additional LEDs.

Physical data

The physical characteristics of the Metro Cell - Indoor (without the power supply unit) are:

Dimensions (Height x Width x Depth)	241 x 241 x 53 mm (9.48 x 9.48 x 2.08 in)
Weight	<2.0 Kg (<4.4 lb)

Connectors

Connectors provided are:

Connection location	Description
At the top of the unit	Two external antenna connectors, type N
At the bottom of the unit	<p>1 Ethernet connector for backhaul connection: 10/100 Base T RJ45 connector. This connector is connected to a PoE+ capable router or a PoE+ power injector in order to supply power.</p> <p>Power Supply jack connector. When the AC/DC power adaptor is used to supply the power (in this case the PoE+ capable router is not used)</p> <p>A ground connector.</p> <p>1 Ethernet connector for connectivity to other devices (1900/850 MHz variant only)</p> <p>SMA connector for external GPS antenna (1900/850 MHz variant only)</p>

Power supply

The Metro Cell - Indoor can be powered via:

- 48V PoE+ (if supported). When the router is not 48V PoE+ capable, a power injector must be added to supply power.
- External 48V DC power adaptor can be used (in this case power injector is not used).

Antenna

The Metro Cell - Indoor has two external RF antenna connectors, type N, located on the top the device. The pair of antennas provide TX/RX and sniffing, and enable Rx diversity capability on the Metro Cell - Indoor.



Debug interface

A number of LEDs and a reset button are hidden behind a removable cover for debugging purposes.

Three LEDs provide status indication for:

- Power
- System
- Phone (Device)

The Alcatel-Lucent 9363 Metro Cell - Indoor 1900/850 MHz variant will have additional LEDs providing status indication for:

- GPS
- Second Ethernet port

Additional LEDs for Ethernet connectivity status are available at the Ethernet Port.

Product labelling

A product label provides the following information:

- Model name
- Part number
- serial number
- MAC address
- CE Approval marking (2100 MHz variant) / FCC Approval marking (1900/850 MHz variant)
- Environmental marking (WEEE/ROHS) applicable to the device.

Product configuration

Metro Cell 2100 MHz

The Metro Cell - Indoor V2 2100 MHz product is delivered with the following base items:

- Metro Cell - Indoor unit
- Ceiling/wall mounting kit
- Power supply 48V DC (with country specific power cord)
- Ethernet cable, 2 meters

Note: Metro Cell - Indoor unit can be supplied with or without a USIM card reader (for authentication purposes).

Metro Cell 1900/850 MHz

The Metro Cell - Indoor V2 1900/850 MHz product is delivered with the following base items:

- Metro Cell - Indoor unit
- Ceiling/wall mounting kit
- Power supply 48V DC (with country specific power cord)

-
- Ethernet cable, 3 meters
 - External active GPS antenna with cable

Note: Metro Cell - Indoor unit can be supplied with or without a USIM card reader (for authentication purposes).

Metro Cell - Indoor ancillary items

In addition to the base items the V2 Metro Cell - Indoor 2100 MHz and 1900/850 MHz can be configured with the following variable and ancillary items:

- Antenna:
 - +2dBi Omnidirectional or +4dBi Omnidirectional
 - +2dBi ceiling or +4dBi ceiling
- PoE+ injector
- A pair of RF jumpers (2 meters)
- Spare Power Supply, 48V DC



3 Metro Cell installation and commissioning

Overview

Purpose

This chapter provides the installation and commissioning procedures for the Alcatel-Lucent 9363 Metro Cell - Indoor.

Contents

Pre-installation information	3-2
To mount the hardware to a wall or ceiling	3-4
Metro Cell - Indoor cabling	3-8
Metro Cell - Indoor commissioning process	3-14
Post installation activities and checks	3-15

Pre-installation information

Product delivery contents

The V2 Metro Cell - Indoor is provided in a standard paper box. The contents are as follows:

Metro Cell - Indoor 2100 MHz model

- The V2 Metro Cell - Indoor access point
- Power supply, 48V DC with country specific AC power cord
- Ethernet cable, 2 meters
- Wall or ceiling mounting kit (excluding collar kit)

Metro Cell - Indoor 1900 and 850 MHz model

The V2 Metro Cell - Indoor is provided in a standard paper box. The contents are as follows:

- The V2 Metro Cell - Indoor access point
- Power supply, 48V DC with country specific AC power cord
- Ethernet cable, 3 meters
- Wall or ceiling mounting kit (excluding collar kit)
- External active GPS antenna with 25 feet (7.62m) of cable

Variable parts and ancillary items

In addition to the standard delivered parts the following variable and ancillary items are available:

- Antennas:
 - 2dBi omni directional antenna
 - 4dBi omni directional antenna
 - 2dBi ceiling antenna
 - 4dBi ceiling antenna
- RF jumper, 2 meters
- A PoE+ power injector, with user guide
- Spare power supply, 48V DC

Device placement

The V2 Metro Cell - Indoor emits a radio signal similar to a Wi-Fi router. 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 public space
- As high as possible, for example, high shelving, wall mounted

To improve coverage, avoid installing near the following:

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

Installation tools required

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

- Drill and assorted drill bits
- Pliers
- Adjustable spanners
- Screwdrivers (power and/or manual):
 - Phillips (flat blade)
 - Torx, T-10, T-20
- Crimping tool (for RJ45 cable)
- Measuring tape
- Marker, to mark wall mounting holes
- Vacuum cleaner or equivalent (required for clearing debris from wall mounting holes)
- Spirit level

To mount the hardware to a wall or ceiling

Purpose

This topic describes the procedures to be followed when installing the Metro Cell - Indoor onto a solid concrete wall or in a false ceiling.

Prerequisites

A site survey has been conducted and a location for the device has been selected that is both central to the public 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.
- The Ground cable has been routed and is in place.
- Site specific fixing materials (screws, washers, wall plugs) for wall or ceiling mounting the Metro Cell - Indoor.

Wall or ceiling mounting

Important! The Metro Cell - Indoor weighs less than 2kg and can be easily mounted on any flat, sturdy wall or ceiling in a vertical or horizontal position.

However, various building materials and construction methods dictate that the device be fastened to the wall or ceiling 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.

Before you begin

Note: Record the 11 digit serial number before mounting the Metro Cell - Indoor.

Wall mount installation



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.

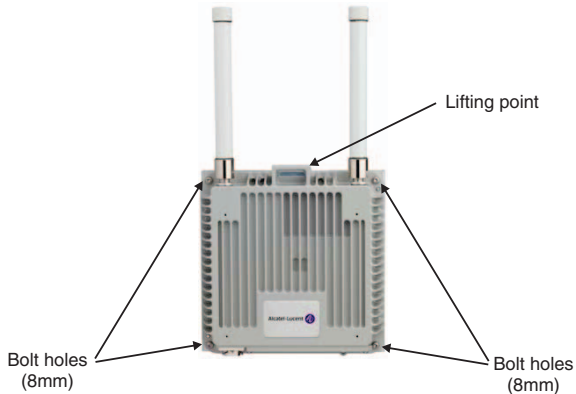
To mount the device onto a wall or ceiling, perform the following steps.

- 1 At the selected installation location, mark the points on the wall or ceiling for the four fixing holes using the template in [Appendix A, “Metro Cell - Indoor wall mount spacer”](#) as a guide.

Check the horizontal position with a spirit level.

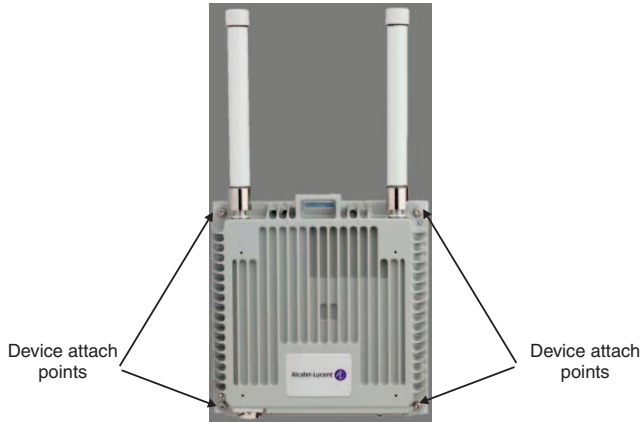
- 2 Drill holes at the marked points and, if mounting on a wall, insert wall plugs into the fixing holes.
-

- 3 Using the lifting point on the device align the bolt holes on the Metro Cell with the wall or ceiling bolt holes:



- 4 Attach the device to the wall or ceiling using appropriate screw fixings.

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



END OF STEPS

How to continue

After mounting the Metro Cell - Indoor to the wall or ceiling, the cables must be connected. Continue with, [“Metro Cell - Indoor cabling”](#) (p. 3-8).

Metro Cell - Indoor cabling

Purpose

This topic describes the procedures to be followed when connecting the Metro Cell - Indoor cables.

Power supply options

Power can be supplied to the Metro - Cell using two different methods.

Power over Ethernet (PoE)

Power can be supplied to the Metro Cell - Indoor using 48V PoE+ (Power over Ethernet) via the Ethernet cable connection. The Ethernet cable has to be connected to a PoE+ capable router.

If no PoE+ capable router is available, a 48V DC Power Injector must be installed between the router and the Metro Cell - Indoor.

For installation instructions, refer to the user guide located in the Power Injector box, document number *06-0062-056*.

External AC/DC power adaptor

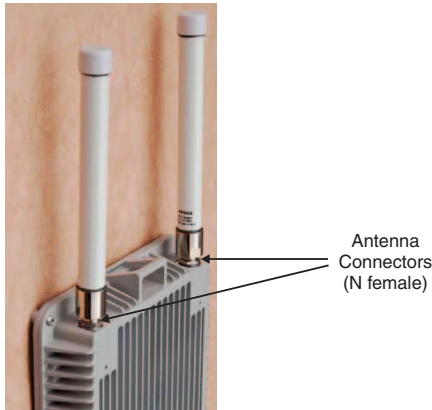
When power is supplied using an external power adaptor, the Power Injector is not used.

If an external AC/DC power adaptor is used the power adaptor cord connects to the power supply jack on the Metro Cell - Indoor.

Before you begin

Connect the pair of omnidirectional antennas to the antenna connectors on the device.

Important! Alcatel-Lucent recommends that the antenna connection nuts are torqued to between 0,7 N.m minimum and 1,1 N.m maximum in order to avoid a potential loose connection.



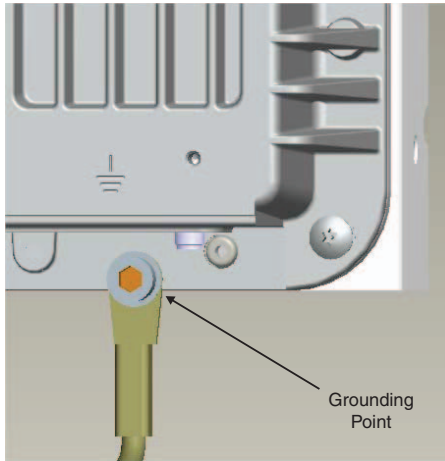
Connect the ground cable

Note: The grounding of the device depends on customer, country and site requirements, therefore these should be checked beforehand.

The Metro Cell Indoor must be grounded with a 16 mm² ground cable (Type NYY-1x16mm² or similar) to a grounding system. The grounding cable and cable lug are not included in delivery and must be locally supplied.

To attach the ground cable perform the following steps.

- 1 Route the ground cable from the ground system to the Metro Cell - Indoor.
- 2 At the Metro Cell - Indoor cut the cable to a proper length, strip the cable end and crimp a ground lug, with a hole suitable for an M6 screw, on the end of the cable.
Clean the contact surface area and use antioxidant to avoid oxidation.
- 3 Connect the ground cable to the grounding point on the Metro Cell - Indoor.

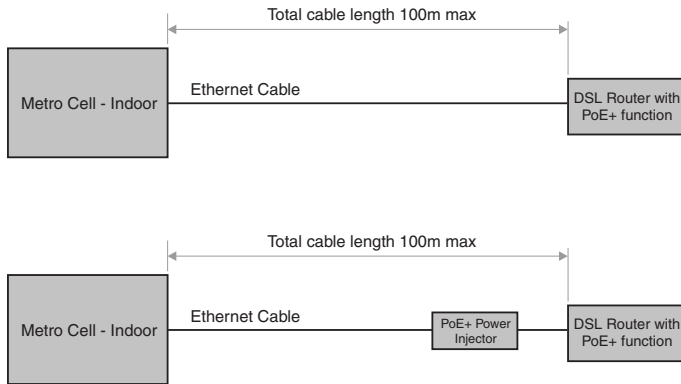


-
- 4 Finally, secure grounding cable to the wall or ceiling.

END OF STEPS

Ethernet cable lengths

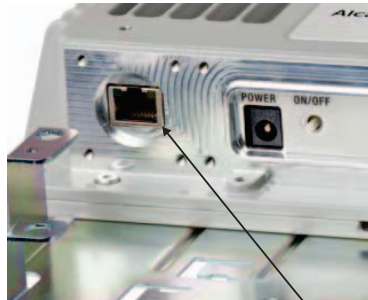
The following diagram outlines the maximum cable length of the Metro Cell - Indoor Ethernet cable connection.



Connect the Ethernet cable

To attach the Ethernet cable perform the following steps.

- 1 Route the supplied Ethernet cable from the Metro Cell - Indoor to the Router/48V PoE+ injector.
Note: 48V PoE+ injector is not used when power is supplied via an external power adaptor.
- 2 Plug one end of the Ethernet cable into the Ethernet connection port on the device.



Ethernet cable connection point

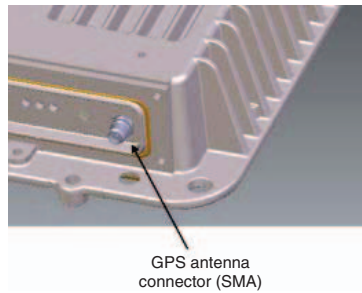
- 3 At the Router/PoE+ injector cut the cable to the required length and crimp the supplied RJ45 connector onto the end of the cable.
- 4 Connect the Ethernet cable to the Router/PoE+ injector.
- 5 Finally, secure Ethernet cable to the wall or ceiling.

END OF STEPS

A-GPS antenna cable connection (1900/850 MHz only)

The Alcatel-Lucent 9363 Metro Cell - Indoor 1900/850 MHz has Assisted GPS capability for localization of the unit.

1 SMA connector is provided for the connection of an external GPS antenna.



How to continue

After antenna and cable connections are completed continue with “To commission the Metro Cell - Indoor”.

Metro Cell - Indoor commissioning process

Purpose

This section describes the 9363 Metro Cell - Indoor commissioning process. The 9363 Metro Cell - Indoor is self commissioning in the case of single device deployments. Where multiple device deployments occur the operator may compliment zero-touch commissioning with appropriate cell planning.

Troubleshooting

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

- *Alcatel-Lucent Metro Cell - Indoor and Outdoor Troubleshooting*, 401-387-076.

Commissioning process

The following steps outline the zero-touch commissioning process.

- 1 Power on the 9363 Metro Cell - Indoor. After 1-3 seconds the power supply status indicator will light up and the Ethernet port status indicator will flash green.
.....
- 2 After approximately 2 minutes the 9363 Metro Cell - Indoor will initialize and establish connectivity. During this operation the System status indicator will blink slowly.
.....
- 3 After the device has established a network connection the 9363 Metro Cell - Indoor will automatically update it's software. This process takes approximately 15 minutes. During this operation both the System and Phone (device) indicators will blink.
.....
- 4 Once the software update has completed the 9363 Metro Cell - Indoor will carry out an automatic reboot. During reboot the Power and System indicators will be on.
.....
- 5 After rebooting the device will automatically auto-configure itself. During this operation the System status indicator will blink slowly.
.....
- 6 When the device is ready for use the Power, System and Phone (device) status indicators will all be ON.

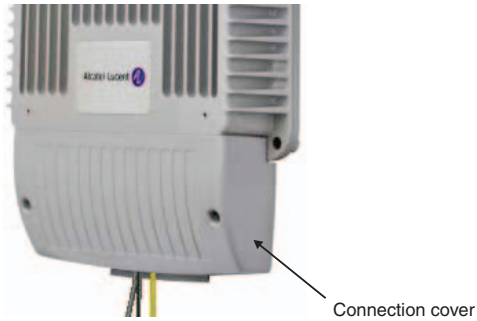
END OF STEPS
.....

Post installation activities and checks

Connection cover attachment

Once the 9363 Metro Cell Indoor is commissioned and ready for use attach the connection cover:

- 1 Check all cable connections are secure and correctly routed.
- 2 Using the supplied cover screws, attach the connection cover to the device:



END OF STEPS

Final installation checks

Before leaving the installation site, check 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 for loose tools, materials, and parts. Remove all such loose tools, materials, and parts.

END OF STEPS

4 Product specifications



Overview

Purpose

This chapter details the Alcatel-Lucent 9363 Metro Cell - Indoor product environmental specifications.

Contents

Environmental and regulatory specifications	4-2
---	-----

Environmental and regulatory specifications

Overview

The 9363 Metro Cell Indoor conforms to 3GPP Release 8, including TS 25.101, TS 25.113, TS 45.005-1 and TS 25.104 on radio transmission and reception.

The solution meets the basic requirements of Directive 1999/5/EC on telecommunications terminal equipment, regarding electromagnetic interference and also safety and health.

The Metro Cell - Indoor 2100 MHz is CE certified and is compliant with RoHS and WEEE.

The Metro Cell - Indoor 1900 and 850 MHz are UL and FCC certified. It complies with FCC part 15, Class B.

The Metro Cell Indoor 1900 and 850 MHz meets the OOB requirements for the US as defined in 47CFR24.238 for 1900 MHz systems and in 47CFR22.917 for 800 MHz systems.

The Metro Cell - Indoor complies with the standards listed in the following sections.

Environmental operating conditions

The Metro Cell - Indoor is compliant with the following environmental operating standards:

- ETS300 019 class 3.1E (temperature range: -5° C to +45° C)

Health, safety, and environmental standards

The Metro Cell - Indoor is compliant with the following health, safety, and environmental standards:

- IEC 60950 (International)
- IEC 60950-1
- EN 50383
- EN 50384 (2100 MHz only)
- EN 50385
- Directive 1999/519/EC On the limitation of exposure of the general public to electromagnetic fields (0 Hz to 300 GHz)
- Directive 2002/95/EC RoHS6
- Directive 2002/96/EC, Waste Electrical and Electronic Equipment (WEEE)
- UL 60950, UL 1310, UL 60950, UL 758 (1900/850 MHz only)
- ETS 300 753 class 4.1 (Acoustic) (1900/850 MHz only)

EMC (Electromagnetic compatibility)

The Metro Cell - Indoor product complies with the following EMC emission and immunity requirements:

- ETSI EN 301 489-1
- ETSI EN 301 489-23
- ETSI EN 301 908-1
- ETSI EN 301 908-3
- EN 55022 class 6 / CISPR22 Class A, with EN 55024 / CISPR 24 and OET-65
- RTTE Directive 1999/5/EC
- FCC part 15 Class B (1900/850 MHz only)

The Metro Cell - Indoor product complies with the following standards:

- 3GPP TS 25.113 Rel 8

Surge immunity

The Metro Cell Indoor tolerates an AC surge, as specified in EN 61000-4-5, Test Level 3.

The Metro Cell Indoor tolerates Electrical Fast Transients on the AC mains, as specified in EN 61000-4-4, Test Level 3.

For the 1900/850 MHz model only, all cables uses UL 758 (Appliance Wiring Material) verified materials



Appendix A: Metro Cell - Indoor wall mount spacer

Overview

Purpose

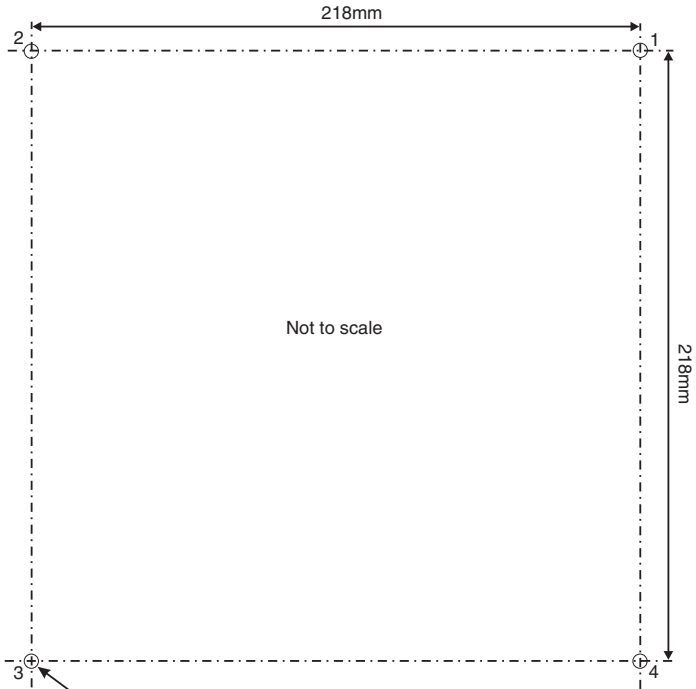
This section details the hole spacing to be drilled when the Metro Cell - Indoor is mounted onto a wall or flat surface.

Contents

Wall mount spacer	A-2
-------------------	-----

Wall mount spacer

Spacer template



Wall drill position for screws
(Note: Use screws suitable for a 8mm bolt hole)
Max tightening torque: 3 Nm
Washer (serial large) are advised



Appendix B: Product conformance statements

Overview

Purpose

This section presents the product conformance statements that apply to the Alcatel-Lucent Metro Cell - Indoor equipment.

The statements that are required are determined primarily by national or multinational regulations. However, in some regions, contract terms determine which statements are required.

The presence of the statement indicates that the product does comply with that statement wherever it is required to do so.

Contents

European Union	B-2
United States	B-6

European Union

Introduction

The statements that follow are the product conformance statements that apply to the Alcatel-Lucent Metro Cell Access Point equipment when deployed in the European Union.

Declaration of Conformity for radio and telecommunication terminal equipment under the scope of *Directive 1999/5/EC*.

Hereby, Alcatel-Lucent declares that the equipment documented in this publication is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

The technical documentation as required by the Conformity Assessment procedure is kept at the Alcatel-Lucent location which is responsible for this product. For more information please contact your local Alcatel-Lucent Customer Service Organization.

CE marking

This product has been CE-marked in accordance with the following European Directives:

- 1999/05/EC Radio and Telecommunication Terminal Equipment (R&TTE)



EMC compliance

The equipment complies with the following EMC specifications:

Standard reference	Title
EN 301 489 V1.8.1/-23 V1.3.1	Electromagnetic Compatibility (Article 3.1(b) of the R&TTE Directive)
EN 55022:2006/A1:2007 Class B	EMC Directive (2004/108/EC)
EN 55024:1998/A1:2001/A2:2003	EMC Directive (2004/108/EC)

Radio spectrum compliance

The equipment complies with the following radio spectrum specifications:

Standard reference	Title
EN 301 908-1/-3 V3.2.1	Radio Frequency Spectrum usage (Article 3.2 of the R&TTE Directive)

Product safety

The equipment complies with the following product safety specifications:

Standard reference	Title
EN 60950-1:2006+A11:2009	Safety (Article 3.1(a) of the R&TTE Directive)
EN 50385:2002	Health (Article 3.1(a) of the R&TTE Directive)
EN 50383:2002	Health (Article 3.1(a) of the R&TTE Directive)

Antenna exposure

Antenna attachment for the Alcatel-Lucent Metro Cell Access Point equipment shall be performed in accordance with all applicable manufacturer's recommendations, and national laws and regulations. To ensure correct antenna installation, the antenna installer shall perform all necessary calculations and/or field measurements to evaluate compliance with applicable national laws or regulations regarding exposure to electromagnetic fields. The supplier of radio equipment, the supplier of antenna equipment and the integrator and builder of the site must provide sufficient information so that the limits of the exclusion zones can be determined. Any changes to the antenna or other equipment in the transmit path may require re-evaluation of the exposures to electromagnetic fields.

Pursuant to

- European Council Recommendation 1999/519/EC, *“On the limitation of exposure of the general public to electromagnetic fields”*
- ICNIRP (International Commission on Non-Ionising Radiation Protection), *“Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields”*

All installations must be evaluated against the Reference Levels, and if necessary exclusion zones for public and installation workers defined.

The following information on Alcatel-Lucent supplied equipment is available from customer representatives:

- Output power and antenna characteristic, if the product is equipped with an integral antenna
- A detailed description of at least one typical normal configuration, including antenna system (feeders, connectors, combiners, antennas, etc.), if the product is intended to be used with external antennas
- Limit distances for general public and occupational exposure. If the product is intended for use with external antennas, limit distances shall be given for the given typical system configurations.
- Information on how to specify exposure levels and limit distances for any optional system configuration not specified in detail
- Information on how to install the equipment/system or the external antennas in order to ensure that the separation between the radiating antenna and general public are exceeding the maximum allowed distances

Information on the methodology used for the determination of RF safety compliance distances and exclusion zones, and the results of the compliance evaluation shall be available for inspection by officials of the governing authorities.

Packaging collection and 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, contact the Alcatel-Lucent Environment, Health and Safety organization.

Recycling / take-back / disposal of products and batteries

In compliance with Waste Electrical and Electronic Equipment Directive (WEEE Directive) 2002/96/EC 01/2003, amended by WEEE Directive 2003/108/EC 12/2003, electronic products and batteries bearing or referencing the symbols shown below shall be collected and treated at the end of their useful life, in compliance with applicable European Union and other local legislation. They shall not be disposed of as part of unsorted municipal waste. Due to materials that may be contained in the product and batteries, such as heavy metals, the environment and human health may be negatively impacted as a result of inappropriate disposal.

Note 1: For electronic products put on the market in the European Union, a solid bar under the crossed-out wheeled bin indicates that the product was put on the market after 13 August 2005.



Note 2: For batteries put on the market in the European Union, a chemical symbol Hg (mercury), Cd (cadmium), or Pb (lead), or a combination of those symbols, beneath the cross-out wheeled bin indicates that the battery contains the corresponding heavy metals.

Moreover, in compliance with legal requirements and contractual agreements, where applicable, Alcatel-Lucent will offer to provide for the collection and treatment of Alcatel-Lucent products bearing the logo at the end of their useful life, or products displaced by Alcatel-Lucent equipment offers.

For information regarding take-back of equipment by Alcatel-Lucent, or for more information regarding the requirements for recycling/disposal of a product, please contact your Alcatel-Lucent account manager. Visit the [Alcatel-Lucent Take-Back](http://www.alcatel-lucent.com/product_takeback) (http://www.alcatel-lucent.com/product_takeback) web page, or contact Alcatel-Lucent Takeback Support at (<mailto:takeback@alcatel-lucent.com>). For technical information on product treatment, consult the [Alcatel-Lucent Recycling Information](http://www.alcatel-lucent.com/product_recycling) (http://www.alcatel-lucent.com/product_recycling) web page.

Material content compliance

Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS Directive) 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. Alcatel-Lucent products shipped to the EU after 1 July 2006 comply with the EU RoHS Directive.

United States

Introduction

The statements that follow are the product conformance statements that apply to the Alcatel-Lucent Metro Cell Access Point equipment 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:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Part 15 Class B

Note: 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.

FCC Part 68

This equipment complies with Part 68 of the FCC rules and the requirements adopted by the ACTA. On this equipment is a label that contains, among other information, a product identifier in the format of AAAEQ##TXXXX. If requested, this number must be provided to the telephone company.

USOC	
FIC	
SOC	
REN	

The T1 network interface on this equipment is hardwired to a punchdown block, which meets the FCC specifications.

If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. However, if advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.

FCC regulations prohibit the connection of customer-provided equipment to central office implemented systems. Connection to party lines is subject to tariffs; users should contact their state public utility commission, public service commission, or corporation commission for information.

If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

If trouble is experienced with this equipment repair or warranty information may be obtained by contacting:

Technical Support Services, within the United States: +1 630 224 4762, prompt 2

RF approval

This equipment complies with Part 2, Subpart J - Equipment Authorization Procedures, of the FCC Rules.

This device complies with Part 22 – Public Mobile Services, Subpart H – Cellular Radiotelephone Services.

This equipment complies with Part 24 - Personal Communications Services, Subpart E - Broadband PCS.

This equipment complies with Part 27 – Miscellaneous Wireless Communications Services.

This equipment complies with Part 90 – Private Land Mobile Radio Services.

Product safety conformance

The Alcatel-Lucent Metro Cell Access Point equipment is Safety Certified ITE by CSA International.

This Certification is marked on the equipment main nameplate label. Should the local Authority Having Jurisdiction (AHJ) require prior or additional verification of this Certification, a Product Certificate of Compliance can be obtained from the specific Certification Body by the Business/Product Unit Applicant for the product or by contacting:

Technical Support Services, within the United States: +1 630 224 4762, prompt 2

Any modifications to this equipment are not permitted without review and official written authorization from the specific Certification Body. Unauthorized changes may violate the Product Safety Certification. Modifications or changes authorized by official CN/CNN are assumed to have received prior approval from this Lab.

Indoor applications

This equipment is intended for installation in restricted access locations where access is controlled or where access can only be gained by service personnel with a key or tool. Access to this equipment is restricted to qualified service personnel only.

Antenna exposure

Antenna installations for the Alcatel-Lucent Metro Cell Access Point equipment shall be performed in accordance with all applicable manufacturer's recommendations, and national laws and regulations. To ensure correct antenna installation, the antenna installer shall perform all necessary calculations and/or field measurements to evaluate compliance with applicable national laws or regulations regarding exposure to electromagnetic fields. The supplier of radio equipment, the supplier of antenna equipment and the integrator and builder of the site must provide sufficient information so that the limits of the exclusion zones can be determined. Any changes to the antenna or other equipment in the transmit path may require re-evaluation of the exposures to electromagnetic fields.

Pursuant to *47 CFR Part 1, Subpart I*, subject to the provisions of section 1.1307, all installations must be evaluated for requirements contained in Table 1, "Limits for maximum permissible exposure," in section 1.1310.

Packaging collection and 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, contact the Alcatel-Lucent Environment, Health and Safety organization or Alcatel-Lucent Hazardous Waste Center technical support at (888) 539-2783.

Material content compliance

The following notification applies to Alcatel-Lucent products distributed for sale, resale, or use.

This product, part, or both may include a lithium-manganese dioxide battery, which contains very small amounts of a perchlorate substance. Special handling may apply.

For California:

Perchlorate Material - special handling may apply.

See (<http://www.dtsc.ca.gov/hazardouswaste/perchlorate/>).

Glossary



Numerics

2G
Second-Generation Mobile Network

3G
Third-Generation Mobile Network

3GPP
Third-Generation Partnership Project

B **BOAC**
Building Officials and Code Administrators

E **ETSI**
European Telecommunications Standards Institute

H **HSUPA**
High Speed Uplink Packet Access

K **Kg**
kilogram

M **MAC**
Media Access Control.
A protocol that determines how devices will share resources on a local area network.

Mbps
Megabits per second

N **NEMA**
National Electrical Manufacturers Association.

Glossary

Node B

Logical Node for radio Tx/Rx in one or more cells to/from UE.

P PoE

Power over Ethernet

R RNC

Radio Network Controller

RoHS

Restriction of Hazardous Substances Directive

U UBC

Uniform Building Code

W WEEE

Waste Electrical and Electronic Equipment Directive



Index

- A** additional optional items
 - Metro Cell - Indoor, 3-2
- antenna
 - Metro Cell - Indoor, 2-6
-
- C** cabling
 - Metro Cell - Indoor, 3-8
- characteristics
 - Metro Cell - Indoor, 2-3, 2-4
- commission
 - Metro Cell - Indoor, 3-14
- connectors
 - Metro Cell - Indoor, 2-6
-
- D** device placement
 - Metro Cell - Indoor, 3-3
-
- E** environmental
 - specifications, 4-2
-
- F** functional description
 - Metro Cell - Indoor, 2-2
-
- I** Installation options
 - Metro Cell - Indoor, 2-4
-
- installation, wall mounted
 - Metro Cell - Indoor, 3-4
-
- M** Metro Cell - Indoor
 - additional optional items, 3-2
 - antenna, 2-6
 - cabling, 3-8
 - characteristics, 2-3, 2-4
 - commission, 3-14
 - connectors, 2-6
 - device placement, 3-3
 - functional description, 2-2
 - installation options, 2-4
 - installation, wall mounted, 3-4
 - physical data, 2-5
 - physical description, 2-5
 - post installation checks, 3-15
 - power supply, 2-6
 - pre-installation, 3-2
 - product delivery contents, 3-2
 - product labelling, 2-6, 2-7
 - tools, 3-3
-
- P** physical data
 - Metro Cell - Indoor, 2-5
-
- physical description
 - Metro Cell - Indoor, 2-5
- post installation checks
 - Metro Cell - Indoor, 3-15
- power supply
 - Metro Cell - Indoor, 2-6
- pre-installation
 - Metro Cell - Indoor, 3-2
- product delivery contents
 - Metro Cell - Indoor, 3-2
- product labelling
 - Metro Cell - Indoor, 2-6, 2-7
-
- R** regulatory
 - specifications, 4-2
-
- S** specifications
 - environmental, 4-2
 - regulatory, 4-2
- standards
 - electromagnetic compatibility, 4-3
 - EMC, 4-3
 - environmental operating conditions, 4-2
 - health, 4-2

Index

safety, [4-2](#)

surge immunity, [4-3](#)

T tools

Metro Cell - Indoor, [3-3](#)



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