Welcome!

Thank you for your purchase of an AT&T MetroCell. You are on your way towards improving your location’s in-building cellular coverage.

In addition to this User Guide, the following documentation is available to help you get the most out of this device:

- The AT&T MetroCell Quick Start Guide, a copy of which was packed with the MetroCell and is also available online at att.com/metrocell
- The AT&T MetroCell Installation Guide, a copy of which was packed with the MetroCell and is also available online at att.com/metrocell
- Answers to many Frequently Asked Questions, available at att.com/metrocell

Customer responsibilities

The customer is responsible for the following:

- Providing an Ethernet router or switch with an available port. All customer equipment that will carry the MetroCell traffic must be configured as specified in Appendix A, LAN Configuration Requirements, including removing port blocking on specified ports.

- Providing internet access and power. The required internet bandwidth will depend on the number of simultaneous users and whether data-intensive applications are being used. Anywhere from 0.5 to 10 Mbps could be required. 10 Mbps is recommended for a single MetroCell.

- Providing environmental operating conditions within the following ranges:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating temperature range</td>
<td>-5°C to +45°C     [23°F to 113°F]</td>
</tr>
<tr>
<td>Storage temperature range</td>
<td>-40°C to +70°C    [-40°F to 158°F]</td>
</tr>
<tr>
<td>Relative humidity</td>
<td>Up to 93%</td>
</tr>
</tbody>
</table>

- Obtaining AT&T Premier usernames with administrative permissions for the individual(s) who will be expected to activate and manage the MetroCell.

- Other responsibilities are specified in the AT&T MetroCell Terms and Conditions. For customers with AT&T Corporate Digital Advantage Program contracts, the MetroCell Terms and Conditions can be found at att.com/cda. Customers with AT&T Mobile Business Program contracts can find them at att.com/amb. Others may find them at serviceguidenew.att.com or by consulting contracting resources within their organization or their AT&T account representative.

Getting to know your AT&T MetroCell

The AT&T MetroCell is an Alcatel-Lucent 9363 Metro Cell – Indoor.

Here’s what the device looks like, with names of parts & features you may need to know:

Figure 1 - AT&T MetroCell

Figure 2 - MetroCell with cover
Getting started

There are two steps to get started with your MetroCell:

1. **Install your MetroCell**

   Installation involves mounting the MetroCell on a wall near the ceiling, connecting it to your LAN, and providing power. The AT&T MetroCell Quick Start Guide provides instructions for a simple installation. The AT&T MetroCell Installation Guide provides more complete instructions. Both of these documents are provided with the MetroCell, and both are available at att.com/metrocell.

   You can either do this yourself or order professional installation through your AT&T representative. There is an additional one-time charge for professional installation.

2. **Activate your MetroCell**

   Activating your MetroCell involves registering it with the AT&T wireless network and establishing communication. These and other functions are performed on the MetroCell website: go to att.com/metrocell and select Manage My MetroCell.

   Detailed instructions on activation and other functions you can perform on the MetroCell website are described in the following pages.

Frequently asked questions

**Q. How do I determine if AT&T MetroCell is right for my location?**

A. If your business is located within an area in which AT&T is licensed to provide cellular service and your indoor signal strength is two bars or less, AT&T MetroCell may be a good solution for you. AT&T MicroCell is designed for four simultaneous sessions while AT&T MetroCell is designed for up to 32. Coverage for AT&T MicroCell is 5,000 square feet while AT&T MetroCell is up to 15,000 square feet per device, depending on building layout and construction. Please speak with your AT&T Account Representative to learn about device requirements.

**Q. What changes will I notice to my mobile service once I install AT&T MetroCell?**

A. A call made through AT&T MetroCell will have improved signal strength, coverage, and clarity.

**Q. How many simultaneous calls or data sessions are possible with my AT&T MetroCell?**

A. The Alcatel-Lucent 9363 model of the AT&T MetroCell supports 32 simultaneous users.

**Q. What kind of handset will work with AT&T MetroCell?**

A. Any AT&T 3G, 4G, or 4G/LTE handset should work with AT&T MetroCell.

**Q. What is an AT&T MetroCell Approved User List?**

A. An Approved User List restricts access to the MetroCell to an authorized list of up to 1,500 AT&T wireless users (phone numbers) of the owner’s choosing. Multiple (up to 3) MetroCells at the same location share a single Approved User List.

**Q. What is open mode?**

A. Open mode is one of two AT&T MetroCell device modes of operation (the other type being closed mode). With open mode, any AT&T wireless user within range of the AT&T MetroCell device can place calls or access data through it.

**Q. What is closed mode?**

A. Closed mode is one of two AT&T MetroCell device modes of operation (the other type being open mode). With closed mode, only AT&T wireless users specified on an Approved User List can use the AT&T MetroCell device.

**Q. What is a Group?**

A. A Group means that one or more AT&T MetroCells at the same address work together in handing off communication between them. The AT&T MetroCell Group shares the same
Using the AT&T MetroCell website

The AT&T MetroCell website has a host of tools to help you manage your MetroCell, including:

- Access documentation and FAQs
- View a listing of all the MetroCells you are authorized to manage
- Activate a MetroCell
- View the status of a MetroCell being activated
- Deactivate a MetroCell
- Manage device settings:
  - Update registration data
  - Set the MetroCell to operate in Open mode or Closed mode
  - Create and edit an Approved User List
  - View and download performance reports

In Open mode, any AT&T subscriber within range of the MetroCell can place calls and use data applications through the MetroCell. In Closed mode, only users with AT&T wireless telephone numbers which have been placed on an Approved User List can place calls and use data applications.

The following pages describe these various functions in detail, grouped under the webpages on which they appear.

MetroCell product page (att.com/metrocell)

The MetroCell Product page is found at the following URL: att.com/metrocell

It provides access to a great deal of information on the AT&T MetroCell: what it is, its benefits, how to obtain one, FAQs, and more. The product page can be accessed by anyone from the Internet.

For customers who have purchased a MetroCell, click on Manage My MetroCell to reach the portion of the website used to activate and manage your device.

Authentication

The Manage My MetroCell portion of the website is restricted to users with AT&T Premier usernames for Telecom Managers or Billing Account Number (BAN) Administrators. All such users should have been assigned Premier usernames which should have been sent to your business email address.

- If you know your Premier username and password, enter them where requested to navigate to the Manage My MetroCell detail page.
- If you do not know your Premier username and password, follow the instructions on the screen to obtain them.

While any Premier username will enable you to view the Manage My MetroCell page, several factors impact which (if any) MetroCells you can view and manage:

- When a MetroCell is purchased, it is associated with an AT&T Billing Account Number (or BAN). Several BANs may in turn be associated with a Foundation Account Number, or FAN.
- Your Premier username is also associated with a BAN and possibly a FAN.
- A Premier username may also be designated as a Telecom Manager (TCM) or BAN Administrator (also referred to as a BAN Admin). Only a TCM or BAN Admin can view MetroCells associated with the BAN.
- The BAN or FAN TCM can assign a number of privileges to Premier usernames, one of which is called “Administer AT&T MetroCell Access”. Without this permission, a TCM or BAN Admin can create and edit an Approved User List for a MetroCell but cannot activate, deactivate, or otherwise manage the device. A user who has been granted the “Administer AT&T MetroCell Access” permission by the customer’s TCM can perform all MetroCell management functions. Additional information on Premier usernames and permissions can be found by logging into Premier (go to https://www.wireless.att.com/business/index.jsp and log in with your Premier username and password), selecting the Support tab, and clicking the link to the Permissions and Settings Overview tutorial.
Manage my MetroCell page

The Manage My MetroCell page is your entry to many tools which you can use to activate and manage your MetroCell.

The center of the page provides a summary listing of the MetroCells which you are authorized to view. These are MetroCells with BANs for which you are a TCM or BAN Admin. This may be none or one or multiple MetroCells.

MetroCell group

If more than one (a maximum of 3 is allowed) MetroCell is installed at the same address, they will normally be provisioned in a Group. Multiple MetroCells in a Group can hand off calls to each other as a caller moves around the site. In addition, all the MetroCells in a Group share a single Approved User List, which makes them easier to manage.

When applicable, the MetroCells listed on the Manage My MetroCell page are shown in their Groups.

Each Group is assigned a MetroCell Group Number, which looks like a telephone number. Any charges associated with your MetroCell will appear on your bill under this number.

The associated Billing Account Number (BAN) is shown under the MetroCell Group Number, as well as a notation that the group has Premium edition features.

Sort order

If you are authorized to view more than one Group of MetroCells, they will initially be listed in the sequence of their Billing Account Number. By clicking on the "▼" symbol next to the MetroCell Group column heading, you can sort the column according to the addresses of the Groups: first in state alphabetical order, then City, then street address.

Before you activate any MetroCell in a particular group, the address of the group is not shown on the Manage My MetroCell page. Instead, the group is listed under the caption: “Click Device 1 to begin activation”.

Acting on a MetroCell

To act on any MetroCell, click on “Device 1” or “Device 2” or “Device 3” in the Devices column. The next step depends on the status of the device you select:

• If the device status is “Inactive”, you will be taken to the Activation flow, but only if your Premier username has the “Administer AT&T MetroCell Access” permission. The Activation flow is described below.

• If the device status is “Pending”, you will be taken to the Activation in Progress page. This page confirms that activation is still in progress and summarizes the information entered during the activation process. You can take the following actions from this page:

  - Go to the Approved User List page

  - View summary information on other MetroCells in the Group

  - Print the page

  - Go back to the Manage My MetroCell page (click on View All Devices)

• If the device status is “Active”, you will be taken to the Manage Device Settings page, but only if your Premier username has the “Administer AT&T MetroCell Access” permission. This page is described below.

• If the device status is “Error”, an error was encountered during activation. Please call the AT&T Product Management Center at 877-996-7017 and enter the PIN ‘METRO’ (63876).

• If the device status is “Suspended”, the Billing Account has been placed in Suspended status. Please call the AT&T Product Management Center at 877-996-7017 and enter the PIN ‘METRO’ (63876).

Activation

When an authorized user selects an Inactive device on the Manage My MetroCell page, the activation flow is launched. The key steps in this process are outlined below.

Terms and conditions

The terms and conditions which govern use of the MetroCell are incorporated into a contract which your organization must have accepted in order to obtain an AT&T MetroCell. The first step in the activation flow is for the user to acknowledge that those terms and conditions apply. A link is provided to download a copy of these terms. The user must click on the checkbox and then on “Continue”.

AT&T MetroCell User Guide • February 2016
E911 address

The next step in activating a MetroCell is to enter the address at which the MetroCell has been installed. Entering this address accurately is extremely important, since it is used to dispatch emergency responders in the event that a 911 call is placed through the MetroCell. If the MetroCell is located in a building that is part of a larger campus or office park, be sure to include a building identifier.

The address you enter will be screened to ensure it is a valid address for Enhanced 911 dispatching purposes. If it is not determined to be valid, you will have the opportunity to correct it.

If you have already entered the address for another device in the same Group, you will be asked to check the address previously entered and confirm that it is the correct address for the current MetroCell. If it is not, you will be directed to call your AT&T account representative to have it corrected. This is the only way the correct address will be sent to emergency responders in the event of a 911 call.

Additional registration information

After completing the address entries, you will be asked to enter additional information on the device:

- Serial number of the MetroCell, found on the device label or shipping label
- An easy-to-remember “nickname” that you assign
- Location of the device in the building, such as floor, room number, etc.
- Selection of Open or Closed mode
- Name, email address, and phone number for a technical contact, should AT&T need to communicate with someone familiar with responsibility for managing the MetroCell
- Name of your Internet Service Provider, which may be useful in troubleshooting any operational problem that may arise.

Completing activation

Finally, you will be asked to double check all the information you have entered and click the Activate button. This will take you to the Activation in Progress page.

It may take up to 2 hours for the MetroCell to complete activation, which includes registering the device and incorporating it into the AT&T Mobility network, downloading the latest MetroCell software, and configuring both the MetroCell and the network. At the end of this process, the status of this device will be updated to Active, and the technical contact will receive an email confirming activation.

During this time, you can go back to the Manage My MetroCell page to work on other MetroCells, or if the device will be in Closed mode, work on the Approved User List, or simply check back in later. Your online session may time out after a period of inactivity, but the activation process will continue.
Once a MetroCell has been activated, various characteristics can be viewed and updated on the MetroCell Device Settings page. To get to it, select an Active device on the Manage My MetroCell page. Items you can edit include:

- Device nickname
- Location in building
- Open or Closed mode
- Technical contact information
- Internet Service Provider

There are also several fields you can view but not edit. Changing any of these fields requires that you contact your AT&T representative:

- Device address
- Serial number
- Make & model

In addition to viewing and editing device settings, links across the top of the page provide access to several other features:

- **Move device**
  This link will guide you through the steps required to move your MetroCell to a new location.

- **Deactivate**
  This link will enable you to deactivate your MetroCell.

- **Approved user list**
  This is where you create and manage an Approved User List – see below.

- **Devices in group**
  If you have more than one MetroCell at the current location, this link will provide information on the other devices in the same Group as the MetroCell you are working with.

The Approved User List page enables you to create and manage an Approved User List. If the MetroCell has been set to operate in Closed mode, only users included in the Approved User List can make calls through the MetroCell. Note that all MetroCells in a Group (all MetroCells at the same address) share a single Approved User List.

25 entries can be viewed at a time. Each entry consists of an AT&T wireless phone number and an optional name of the wireless user. There is a link at the bottom of the list to Add MoreUsers, which opens an additional page. An Approved User List can hold up to 1500 entries.

When you click on Submit, the numbers will all be validated. If errors are detected, the entries with errors will move to the top of the list, highlighted in red, and error messages will be displayed. These errors should be corrected or removed and the list resubmitted. When no errors remain, the corrected list is displayed and can be edited further.

Validation includes:

- A check for duplicates
- A check for a complete number (10 digits)
- Confirmation that the telephone number is for an AT&T wireless subscriber
- Confirmation that the telephone number is an active number

Remember to save your list by clicking on Submit before you leave the page.

To start over, there is an option at the bottom of the list to delete the entire list. You will be asked to confirm this deletion, which is not recoverable.

To print the list of users on any page, click on the Print This Page link in the upper right corner of the page.

**Please note:** It may be necessary for users who are placed on the Approved User List to power their handset down and back up to be able to access the MetroCell.
Appendix A: Local transport requirements

Confirm the following router/switch settings prior to activating your AT&T MetroCell:

- DHCP is ON
- MTU size is set to 1492
- MAC address filtering is either turned off or allows the MAC address of the MetroCell
- IPSec Pass-Through is Enabled
- Block Fragmented Packets is Disabled

If using multiple routers, the MetroCell must be connected to the first router connected to the broadband modem.

If the MetroCell is connected to a router that is connected to a modem and both the router and the modem have NAT (Network Address Translation) enabled, disable NAT either in the router or the modem.

TCP/UDP Ports

All ports listed need to be Open for inbound and outbound connections:
- UDP Ports 123, 500, 4500, 33434, 33435, 33436
- TCP Ports 443, 7004, 7014

IP Address Pass-Through

If the local network has a firewall with specific IP addresses allowed to pass through, the following addresses must be allowed to pass:

<table>
<thead>
<tr>
<th>Port</th>
<th>IP Addresses</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCP 443, 7004, 7014:</td>
<td>166.147.105.25</td>
</tr>
</tbody>
</table>

In addition, no traffic to or from the following URLs should be blocked:

fileservr.metro.wireless.att.com
hnmm.metro.wireless.att.com
initial-ipsecrouter metro.wireless.att.com

Appendix B: Bandwidth guidelines

Customer is responsible for providing connectivity to the Internet.

The required bandwidth will depend on the number of simultaneous users you want to be able to support and whether data-intensive applications are being used.

The maximum total traffic that can be carried by a MetroCell across all simultaneous users, based on its radio interface, is:
- 5.6 Mbit/sec. from handsets to the MetroCell (uplink)
- 21 Mbits/sec. from the MetroCell to handsets (downlink)

Each simultaneous voice call requires 37 Kbit/sec. of bandwidth on the Internet access connection.

A full complement of 32 simultaneous voice calls would require 1.2 Mbit/sec.

If some of these user sessions are high-volume data sessions instead of voice calls, the required bandwidth can be much higher. For example, watching a streaming video can peak above 1.5 Mbit/sec. for a single user. Data sessions tend to be “bursty,” with fluctuating demands for bandwidth.

When voice and data sessions are competing for limited bandwidth, priority is given to the voice calls.

Customer is responsible for taking all of these factors into consideration in determining how much bandwidth is needed on the Internet access connection.

In the absence of any specific information on expected usage, it is suggested that capacity of at least 10 Mbps down and 2 Mbps up be provided.

Inadequate bandwidth may result in dropped calls, poor voice quality, slow response to data requests, and other adverse effects. If you experience any of these, you may need to increase the available bandwidth or remove other traffic.
Appendix C: Troubleshooting guide

After completing installation and activation of the MetroCell, if the signal strength you receive on your handset has not improved or you are unable to make calls or use data applications, follow the steps outlined in this appendix.

If you have multiple small cells at the same site and are experiencing poor voice quality, slow data speeds, or dropped calls, the cause may be interference between the cells. It may be necessary to increase the separation between cells or otherwise shield the cells from each other.

Preliminary steps

- Power down the MetroCell and wait 10 minutes.
- Power up the MetroCell and wait at least 15 minutes.
- Ensure that an appropriate (3G-capable) mobile device is available.
- If the MetroCell has been configured to operate in “Closed” mode, ensure that the device(s) being used to make test calls is on the Approved User List (see the AT&T MetroCell User Guide available at att.com/metrocell).
- Check that an Internet router is installed.
- Check that the Internet line is working properly.
- Ensure that access to the router and MetroCell are available.

LAN configuration requirements

Verify that the LAN Configuration Requirements in Appendix A are met. This may require adjustment of certain router parameters.

Debug interface

A number of LEDs and a reset button are located behind the removable cover for debugging purposes (see Figure 2).

LEDs provide status indication for:
- Power
- System
- Phone (Device)
- Second Ethernet port
  (not used in the typical installation)
- GPS

These LEDs can be used to help diagnose problems – see the troubleshooting steps below.
## Steps to perform LED troubleshooting

### Step 1 – MetroCell power LED

<table>
<thead>
<tr>
<th>If</th>
<th>Then</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Power LED on the MetroCell is ON</td>
<td>Power is OK, skip to Step 2.</td>
</tr>
</tbody>
</table>
| The Power LED on the MetroCell is OFF | Check the source of power to the MetroCell, including:  
  - The outlet feeding the Power Injector.  
  - The power cable feeding the Power Injector.  
  - The Power and Ethernet lights on the Power Injector.  
  - The Ethernet cable from the Power Injector to the MetroCell.  
    (Make sure it is shielded CAT5e cable, installed as described, and not damaged.)  
    If all of the above appear to be in good working order, call the AT&T Product Management Center at 877-996-7017 and enter the PIN ‘METRO’ (63876). |
| The Power LED is blinking | Device has a major hardware fault. call the AT&T Product Management Center at 877-996-7017 and enter the PIN ‘METRO’ (63876). |

### Step 2 – MetroCell system LED

<table>
<thead>
<tr>
<th>If</th>
<th>Then</th>
</tr>
</thead>
<tbody>
<tr>
<td>The System LED is ON</td>
<td>Skip to Step 3.</td>
</tr>
</tbody>
</table>
| The System LED is OFF  | There could be a system error or backhaul network problem.  
  - Power down the MetroCell and wait 10 minutes.  
  - Power up the MetroCell and wait at least 15 minutes.  
  After performing the above, if System LED is ON, check to see if problem is resolved.  
  If not, call the AT&T Product Management Center at 877-996-7017 and enter the PIN ‘METRO’ (63876). |
| TheSystemLEDisBLINKING | A software upgrade or an auto-configuration process may be in progress.  
  Wait until the upgrade or configuration is completed (up to 30 minutes).  
  If System LED is ON, check to see if problem is resolved.  
  If not, call the AT&T Product Management Center at 877-996-7017 and enter the PIN ‘METRO’ (63876). |

### Step 3 – Phone (Device) LED

<table>
<thead>
<tr>
<th>If</th>
<th>Then</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Phone (Device) LED is ON</td>
<td>If you are unable to make calls, call the AT&amp;T Product Management Center at 877-996-7017 and enter the PIN ‘METRO’ (63876).</td>
</tr>
<tr>
<td>The Phone (Device) LED is OFF</td>
<td>If you are unable to make calls, call the AT&amp;T Product Management Center at 877-996-7017 and enter the PIN ‘METRO’ (63876).</td>
</tr>
</tbody>
</table>
| The Phone (Device) LED is BLINKING | • If the System LED is also blinking, the MetroCell is initializing. Please wait up to 30 minutes and check again.  
  • If the system LED is on, either maximum number of users is connected or there is congestion in the internet access network.  
  • If the System LED is off, there may be an impairment in the Internet access network.  
    Check that the network is performing properly. |
## Step 4 – GPS LED

<table>
<thead>
<tr>
<th>If</th>
<th>Then</th>
</tr>
</thead>
<tbody>
<tr>
<td>The GPS LED is ON</td>
<td>GPS location verification was successful. No action is required.</td>
</tr>
<tr>
<td>The GPS LED is OFF</td>
<td>GPS lock was not achieved but other means will be used to validate location.</td>
</tr>
<tr>
<td>The GPS LED is BLINKING</td>
<td>GPS location check is in progress. Wait until location check is completed (up to 30 minutes). If problem persists, call the AT&amp;T Product Management Center at 877-996-7017 and enter the PIN ‘METRO’ (63876).</td>
</tr>
</tbody>
</table>

If you are still unable to complete calls and use data applications, please call the AT&T Product Management Center at 877-996-7017 and enter the PIN ‘METRO’ (63876).

## Warranty

### One-year limited warranty

AT&T warrants to the first retail purchaser of an AT&T MetroCell device that, should this product or any part be proved defective in materials or workmanship, from date of purchase, as evidenced by AT&T billing records for a period of one (1) year, then it will be subject to the terms of this one-year limited warranty. Such defects will be repaired or replaced without charge for parts or labor directly related to the defect.

**LIMITATIONS AND EXCLUSIONS:** This warranty does not apply to any cost incurred for removal or reinstallation, or to any product or part thereof which has suffered through normal wear and tear, alteration, improper installation, physical abuse, misuse, neglect or accident. Damage resulting from an act of God, including but not limited to fire, flood, earthquake and other natural disasters will be excluded. This limited warranty is in lieu of all other warranties, express or implied either in fact or by operations of law, statutory or otherwise, including, but not limited to, any implied warranty of merchantability or fitness for a particular use. AT&T does not authorize any other person to assume any liability beyond the warranty herein described. In no event, whether based in contract, tort or any other legal theory, shall AT&T or any of its agents or sellers be liable for incidental, consequential, indirect, special, or punitive damages of any kind resulting from the use of this product, including but not limited to interrupted or incomplete phone calls, omission or negligence arising out of any breach of this warranty. In no event shall AT&T or its agents or sellers be liable for any damages however defined in an amount in excess of the purchase price.

Customers who believe they require warranty service should call the AT&T Product Management Center at 877-996-7017 and enter the PIN ‘METRO’ (63876). A Customer Care representative will take information over the phone to attempt to diagnose and remedy the issue. If the Customer Care representative determines that warranty service is required, the representative will provide instructions on how to return the device for repair or replacement.