## AT&T Business

# **5G Cell Booster Pro**

Create more wireless coverage with a business-ready mini-cell tower that creates a 5G C-band network inside your workplace

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## Welcome

Thank you for choosing AT&T's 5G Cell Booster Pro. You chose a powerful solution to create a wireless network with AT&T 5G licensed spectrum inside your business location. 5G Cell Booster Pro provides coverage for any AT&T 5G and 4G LTE-capable device.

5G Cell Booster Pro is a business-ready mini-cell tower that generates 5G C-band coverage inside your workplace. Enjoy better productivity as you access business data, complete point-of-sale transactions, and conduct video conference calls with customers and suppliers when your site gains coverage for your business needs. If you need to solve a coverage problem in less than 90,000 square feet, 5G Cell Booster Pro devices are your simple-to-install and easy-to-use solution.

This document provides information about the 5G Cell Booster Pro product and how to set it up, use it, and obtain support.

## How 5G Cell Booster Pro works







## Connect to broadband

- Register the Cell Booster
   Pro device serial number(s)
   in the portal
- Connect your AT&T
   broadband router to your
   5G Cell Booster Pro WAN
   port to create a data
   transport for the cellular
   traffic.

## Place & connect GPS antenna

- Insert the GPS antenna into the GPS port on the backside of the device.
- Place the GPS antenna on an exterior window to obtain and maintain a 5G signal.

## Connect the device to power

- Connect the 5G Cell
   Booster Pro device to a power source using the provided power supply.
- Your 5G Cell Booster Pro admin receives email notification of service activation



## **Cell Booster Pro features**

#### AT&T 5G network coverage

- **AT&T 5G C-band** network coverage inside your workplace within the coverage area of your 5G Cell Booster Pro device(s)
- Omni-directional propagation to generate a 360-degree signal
- Connects to a 1G port on your broadband router or switch for cellular data transport via an ethernet cable
- Provides coverage for up to 15,000 square feet per 5G Cell Booster Pro device
  - Areas with thick interior building materials or multiple barrier walls may need more than one Cell Booster Pro device to achieve the desired coverage.
- Supports up to 64 simultaneous connections per device
  - 32 5G C-band connections and
  - 32 4G LTE connections
- Add up to 6 devices per site to serve up to 384 simultaneous connections spanning up to 90,000 square feet
  - 192 5G C-band connections and
  - 192 4G LTE connections
- Automatic connectivity for the following device types:
  - AT&T 4G and 5G devices, including phones, tablets, wearables, and other devices
  - Band 14 devices
  - AT&T IoT devices, excluding those with SIM type CAT-M, LTE-M, NB-IoT, or RedCap
- Peak data throughput of up to 800 Mbps downlink and 150 Mbps uplink
  - The number of 5G Cell Booster Pro devices, the site's maximum broadband speed, the number of simultaneous user sessions, and the type of session (voice, data, streaming) will influence 5G Cell Booster Pro's performance.
- External GPS antenna obtains and maintains the 5G signal, timing, and E911 compliance.

#### Simple to install

- **Simple to install** by using the 5G Cell Booster Pro mobile app or web portal
- **Device placement options** include tabletop, wall, or ceiling
- Professional installation service available for business locations

#### Easy to use

- Any AT&T 5G or 4G-LTE capable device, including phone, tablet, laptop, connected wearable, or other device, automatically connects to the 5G Cell Booster Pro cellular network
  - Excludes devices with IoT SIM type CAT-M, LTE-M, NB-IoT, or RedCap
- Easy to manage by using the 5G Cell Booster Pro mobile app or web portal
- **Real-time service status** and performance metrics from LED lights on the front of the 5G Cell Booster Pro device and within the Cell Booster portal

## Site requirements

- US location
- Interior location needing coverage for an area of up to 15,000 square feet per 5G Cell Booster Pro device

   Maximum number of devices per site: 6 to support up to 90,000 square feet of coverage area
- **5G Cell Booster Pro is available** for any location in the domestic US where AT&T provides 5G C-band or 4G LTE coverage
  - <u>Use this link</u> to verify AT&T 5G coverage in your location's zip code

- The service also provides 4G LTE coverage, while 5G C-band is unavailable in Hawaii and Alaska.
- An exterior window for placing and keeping the GPS antenna that obtains and maintains the cellular signal per industry standards

## **Broadband requirements**

**5G Cell Booster Pro uses your site's broadband** as a data transport to create AT&T's reliable 5G network inside your building.

- Requires an available 1G port on your broadband router or switch
- Connects to the broadband router or switch via the provided Cat 6 ethernet cable

To enable the best possible coverage from your 5G Cell Booster Pro device, we recommend that your broadband meets or exceeds these downlink and uplink bandwidths:

	<b>Recommended</b> broadband downlink bandwidth	<b>Recommended</b> broadband uplink bandwidth	
	1 GB or higher	100 Mbps or higher	
the numbe		the site's maximum broadband s plus the type of session (voice, da r Pro's performance.	

**To activate and have basic 5G Cell Booster Pro service,** your broadband must at least meet these minimum broadband downlink and uplink requirements:

Minimum	Minimum
broadband downlink	broadband uplink
100 Mbps	25Mbps

You can check your current downlink and uplink broadband speeds using this link.

#### **AT&T Business Fiber**

We recommend pairing 5G Cell Booster Pro with AT&T Business Fiber or AT&T Dedicated Internet (ADI). AT&T Business Fiber and other AT&T broadband solutions provide business locations with ultra-fast, dependable, and affordable business internet solutions.

- If you need new or improved broadband to support your business goals, we recommend AT&T Business Fiber where available.
- 5G Cell Booster Pro connected to AT&T's Business Fiber provides optimum, always-on coverage for your workplace.

- AT&T Business Fiber and other AT&T broadband solutions are available in the following states:
  - Alabama I Arkansas H California H Florida L Georgia N Illinois
    - Indiana Kansas Kentucky Louisiana Michigan

Mississippi Missouri Nevada North Carolina Ohio Oklahoma South Carolina Tennessee Texas Wisconsin

• For more information about broadband solutions, see the <u>AT&T Business Internet</u> page at <u>www.att.com</u> or speak with a business expert at (866) 520-3005.

#### **Firewall setting requirements**

Your site's internet firewall may need updating if it uses specific IP addresses to accept and pass data traffic.

- Your firewall must recognize specific IP addresses necessary to broadcast AT&T cellular traffic via 5G Cell Booster Pro.
- See Appendix C: Activation troubleshooting and firewall updates.

## **Device specifications**

CBP device dimensions	<ul><li>9.5 inches high, 9.5 inches wide, 3.8 inches deep</li><li>8.8 pounds</li></ul>	
Power source	<ul> <li>External AC to 12-volt DC converter <u>OR</u></li> <li>Ethernet PoE++ splitter optional accessory available from AT&amp;T if an accessible AC power outlet is not available for the 5G Cell Booster Pro device</li> </ul>	
Power consumption	• Maximum power consumption at ambient temperature: less than 26W	
Interior environmental conditions	<ul> <li>Temperature ranges from 23°F to 113°F</li> <li>Relative humidity up to 95%</li> <li>Passive cooling</li> </ul>	
Intrinsic safe standards	UL-certified, which includes Intrinsic Safe standards	
CBP device placement options	<ul> <li>Flat surface tabletop: for the best performance of the CBP omnidirectional antenna, attach the device to the desk stand accessory available from AT&amp;T before connecting the device to the Ethernet cable, GPS antenna, or power supply.</li> <li>Wall mount: the back of the CBP device has a twist-off disk with pre-drilled holes for mounting the device on a wall.</li> </ul>	
Separating multiple CBP devices	• Place 5G Cell Booster Pro devices at least 50 feet away from each other as measured by a straight line through the walls of the building	
Security	• 889 compliant to protect National Security by limiting the government's access to "covered" equipment or services manufactured or provided by certain companies or their subsidiaries or affiliates with known ties to the People's Republic of China	



- Uses industry-standard encryption techniques and algorithms, including Advanced Encryption Standard (AES) 128 and 256, Triple Data Encryption Standard (3DES), and commercial algorithms, including RC4, with a minimum equivalent of 128-bit
- Complies with the <u>AT&T corporate security policy</u>

## Ordering 5G Cell Booster Pro

#### **Ordering 5G Cell Booster Pro**

You may order a 5G Cell Booster Pro and rate plan in one of these ways:

- Contact your AT&T seller, who can create the order for you
- Call an AT&T business care center to place an order (800) 331-0500
- Visit an AT&T retail store to place your order

Your order will include these components:

- 5G Cell Booster Pro rate plan: monthly recurring charge
  - Each 5G Cell Booster Pro device requires a 5G Cell Booster Pro rate plan
- 5G Cell Booster Pro device: one-time charge
  - Business customers can pay for the device in installments spanning 24, 30, or 36 months
  - Consumer customers can choose a 36-month installment plan
- 5G Cell Booster Pro optional accessories:
  - Desk stand: recommended for devices placed on a tabletop. You will experience better performance by inserting the device into the desk stand instead of laying it flat on the tabletop.
  - GPS antenna extension cable (65 feet): recommended if the distance between the device's location and the window used for the GPS antenna exceeds 35 feet
  - PoE++ splitter: an alternate power source if the location for the 5G Cell Booster Pro device does not have an accessible AC power outlet
- Installation service options:
  - Do it yourself
  - AT&T professional installation service for business locations (not available for homes)
    - Your AT&T seller or business care center can order the installation service for you.

#### **Receiving 5G Cell Booster Pro devices**

- AT&T ships the 5G Cell Booster Pro device and accessories included in your order to an address you provided during the order creation.
- AT&T ships 5G Cell Booster Pro devices and accessories to your address for orders placed in retail stores, with AT&T sellers, or at business care centers.

## Included in the Cell Booster Pro kit

Each 5G Cell Booster Pro device kit includes the following components to install and activate the device:

- 5G Cell Booster Pro device to create 5G wireless coverage in your building
  - It consists of a detachable wall mount with pre-drilled holes for mounting the device on a wall or ceiling
- Ethernet CAT6 cable to connect the 5G Cell Booster Pro device to your broadband router or switch

- Length: 9 feet
- GPS antenna to obtain and maintain the AT&T 5G network signal, timing, and E911 compliance
  - Cable length: 33 feet
  - 65-foot extension cable optional accessory available from AT&T and needed if the distance between the 5G Cell Booster Pro device and exterior window exceeds 33 feet
- Power cable to connect the 5G Cell Booster Pro device to a power source
  - Length, including power supply and cable: 9 feet
  - AC to 12 V DC power supply
  - If the Cell Booster Pro device location cannot access an AC power source, consider ordering an AT&T's PoE++ Splitter as an accessory.



	POWER	INTERNET	STATUS	GP5	4G C1	4G C2	5G	
-				_		_		_
-	_		_				_	
-								_
_			_		_			_
-								_
_								_
_								_
-	_	_		_			_	_
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_	_	_	_	_	_	_	_	_
_								_
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_			_	_		_		_
_								_
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### Real-time LED status:

- **Power** on/off status
- Internet connection status
- Status
- **GPS** lock status
- **4G** radio 1 status
- 4G radio 2 status
- **5G** radio status

Front view of the 5G Cell Booster Pro device



Rear view of the 5G Cell Booster Pro device

## Ports & connections

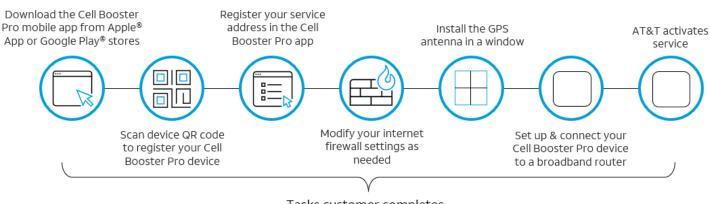
- **GPS**: insert GPS antenna cable into this port
- **LAN:** use the WAN rather than the LAN port to connect the device to your broadband router
- **WAN:** insert the cat6 ethernet cable into this port to connect the device to your broadband router

• **Power:** insert the power outlet into this port

• **Reset:** press to restart the device until the LEDs turn back on

## Installation options

Many customers install a Cell Booster Pro device by themselves. Here are the steps to activate your Cell Booster Pro device:

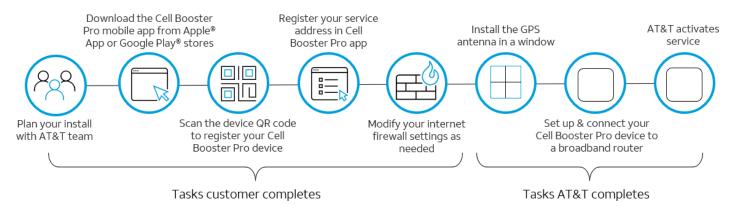


Tasks customer completes

Cell Booster Pro do-it-yourself installation task sequence

See <u>Installing Cell Booster Pro</u> for step-by-step installation instructions, and refer to <u>Appendix B: Activation</u> <u>troubleshooting and firewall updates</u> for details about the firewall changes you may need to make.

**Professional installation** is available. Ordering professional installation from AT&T is an excellent choice if you need more than one or two devices installed in your location or do not want to add another item to your to-do list. These are the steps involved in the professional installation service:



5G Cell Booster Pro professional installation task sequence

Professional installation excludes installing devices on walls or ceilings over 10 feet high in a business location and is unavailable for non-business locations.

You can add the professional installation service to a Cell Booster Pro order created by your AT&T sales executive or care center manager.

## **Cell Booster portal**

Use the Cell Booster Pro portal to register your device before installing equipment:

## Register 1. Scan the QR code on the device to register the 5G Cell Booster Pro device's serial number in the portal <u>OR</u> manually enter the device's serial number in the web portal.

- 2. Input the name, email address, and AT&T phone number to register the person who will be your Cell Booster Pro administrator.
- 3. Input the 5G Cell Booster Pro installation address to register the service address.
- 4. **Scan the QR code on the next device** if you are installing more than one Cell Booster Pro device at the same site.

#### Use the portal to change or check service status:

Add	• Scan the QR code on the device to register a new Cell Booster Pro serial number in the portal for an existing service address.
	• Input other Cell Booster Pro technical contact name(s) to add them as portal administrators.
	• Input the installation address for Cell Booster Pro to register a new service address.
Remove	• <b>Delete a Cell Booster Pro device</b> you no longer use after contacting AT&T to deactivate the Cell Booster Pro rate plan.
	• <b>Delete a Cell Booster Pro administrator,</b> provided you keep at least one registered administrator.
	• <b>Delete a service address</b> with no linked Cell Booster Pro devices.
Check	<ul> <li>Select an activated Cell Booster Pro device and:</li> <li>Select Device status to view the status for power, internet, activation status, GPS, 4G-LTE radios, and 5G radios</li> <li>Select Performance reports to view the current month plus the previous twelve</li> </ul>
	months' results for retainability and accessibility for voice and data traffic.
Move	<ul> <li>If you need to move all Cell Booster Pro devices from one location to another:</li> <li>Delete their current service address from the portal.</li> <li>Delete each device serial number from the portal.</li> <li>Physically move the devices to the new location.</li> <li>Scan the QR code on the device to register a new Cell Booster Pro serial number in the portal.</li> <li>Input the Cell Booster Pro technical contact name to add them as portal administrators if different from the original portal administrator.</li> <li>Input the new installation address for the relocated Cell Booster Pro devices.</li> <li>Set up the 5G Cell Booster Pro device per the installation instructions available in the portal.</li> </ul>

If you need to move some but not all Cell Booster Pro devices to a different address

- **Delete the serial number** of the device(s) you will move.
- Physically move the device(s) to the new location.
- **Scan the QR code** on the device to register the Cell Booster Pro serial number in the portal.
- **Input the Cell Booster Pro technical contact name** if it differs from the original portal administrator.
- Input the new installation address for the relocated Cell Booster Pro devices.
- Set up the 5G Cell Booster Pro device per the installation instructions available in the portal.

The Cell Booster Pro portal is available in two formats:

• Free mobile app available in Apple and Google Play stores by searching for AT&T Cell Booster



• The online portal is accessible via a web browser: www.att.com/cellboosterpro

#### Login for the Cell Booster Pro portal

Accessing the Cell Booster Pro Portal requires you to input your login name and password for one of these AT&T systems:

- Premier Wireless Business
- FirstNet Central
- myATT (att.com)

What if you do not have a login to one of those systems? What if you do not want to share your business account login credentials with the person you assign to be your Cell Booster Pro portal administrator? Your Cell Booster Pro technical contact can create a free att.com email address to gain direct access to the Cell Booster Pro portal. This email address does not provide access to any other AT&T system.

See <u>Appendix A: Create login credentials for the Cell Booster Pro portal</u> to create an email address to log into the Cell Booster Pro web portal or mobile app.

## Installing 5G Cell Booster Pro

#### **Register your Cell Booster Pro device**

Complete these steps for a DIY install or before your installation appointment if you ordered AT&T's installation service:

- 1. Know your login and password for the Cell Booster Pro portal.
- 2. Download the AT&T Cell Booster Pro app from the Google Play or Apple app store <u>OR</u> log into the web portal (att.com/cellboosterpro).
- 3. Scan the blue-stick QR code on the Cell Booster Pro device. The portal app automatically opens.



 Tap the account type applicable to your login type. →

Welser		
	ne to AT&T Cell Booster! arted, what kind of account do you have?	
22	myAT&T For customers who pay their own bill and small-business customers	Tap and enter your myATT (att.com) <u>or</u> "@currently.com" email address and password
	Enterprise or FirstNet subscriber For enterprise business customers	Tap and enter your Premier Business Wireless username and password
=	FirstNet Agency paid For first-responder users	Tap and enter your FirstNet Central username and password

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Cell Booster Pro portal login page

- 5. Input your login name and password.
- 6. Review and accept the application's end-user license and terms of service agreements.
- 7. Tap Set up an AT&T Cell Booster Pro to continue.
- 8. Notice that the serial number field displays the serial number of the device you scanned.
- 9. Input your Cell Booster Pro's technical contact information in the following fields:
  - a. First name, Last name
  - b. AT&T mobile phone number
  - c. Preferred email
  - d. Cell Booster nickname (hint: use the device's location in your building as a nickname)
- 10. In the AT&T Cell Booster Pro Type field, you will see AT&T.
- 11. In the Enter Cell Booster Pro Location screen, input the complete address for the Cell Booster Pro site.
- 12. Review the information you entered and make needed changes. Tap **Confirm** if the information is correct.
- 13. You should see the "Registration Successful" message within the portal.
- 14. If you are installing multiple Cell Booster Pro devices at the same site,
  - a. Return to the portal home page and tap the location name you just created.
  - b. Tap the + sign to add a new device.
  - c. Position your device over the blue-label QR code on the next device and scan the serial number.

#### Modify your firewall settings

Complete these steps for a DIY installation or before your installation appointment if you ordered AT&T's installation service:

- <u>Appendix C: Activation troubleshooting and firewall updates</u> provide detailed information about changes you may need to make to your internet firewall settings.
- Because of the wide variety of network configurations, AT&T recommends consulting a network specialist, router manufacturer, and/or Internet Service Provider to answer specific network setup questions.
- AT&T is unable to help you change your firewall settings.

#### Setup Cell Booster Pro equipment

Complete these steps for a DIY installation:



- 1. **Find a place for your Cell Booster Pro device**. For best results, have a direct connection to the broadband router or switch connected to the broadband switch.
  - a. If setting up multiple 5G Cell Booster Pro devices within the same site, keep at least 50 feet of space between devices so they do not create interference.
- 2. **Plug the provided ethernet cable** into the Cell Booster Pro WAN port and then into your broadband router or switch, e.g., wi-fi gateway.
- 3. Carefully plug the GPS antenna into the Cell Booster Pro device.
- 4. Attach the GPS antenna to a window to receive the AT&T network signal.
- 5. **Plug the power supply** into the Cell Booster Pro and a nearby AC outlet.

The Cell Booster Pro activation sequence should begin and may require approximately 90 minutes to complete.

#### 5G Cell Booster Pro placement guidelines

- For wall-mount installation, place the top edge of the Cell Booster Pro device at least 1 (one) foot below the ceiling.
- The coverage radius for a Cell Booster Pro in a typical office/drywall environment is 50-70 feet. The coverage radius may be as little as 15-20' in an environment with cinderblock or thick concrete walls.
- Separate your Cell Booster Pro devices by at least 50 feet as measured by a straight line between the devices.
- Do not place your Cell Booster Pro devices inside MDF/IDF or other types of closets, containers, or small enclosed areas.
- Separate each Cell Booster Pro device approximately 3-5 inches from other electronic equipment for general equipment hygiene. The Cell Booster Pro device will not interfere due to FCC-regulated broadcast frequencies, but separating electronic devices is still a good practice.

Upon service activation for your Cell Booster Pro device, your Cell Booster Pro administrator receives an email from AT&T.

- a. All LED lights on the front of your Cell Booster Pro device display a white, non-blinking light for an activated Cell Booster Pro device.
- b. AT&T devices within the Cell Booster Pro coverage area automatically gain improved cellular connectivity.
- c. C. The Cell Booster Pro device's blinking white LEDs indicate active calls and data sessions for your user devices.
- 6. Place the Cell Booster Pro device within 5-8 inches of the A/C power connection.
- 7. Choose a window for the GPS antenna no more than 30 feet from the Cell Booster Pro device or a maximum of 95 feet if you purchase the optional GPS extension cable. Try to avoid using a south-facing or coated window.

#### Troubleshooting

- Refer to Appendix C: Activation troubleshooting and firewall updates
- Refer to <u>Appendix D: Cell Booster Pro service troubleshooting guide</u> for detailed guidance about how to detect and solve an issue

## Use 5G Cell Booster Pro

What do you need to do for your user devices to use the activated 5G Cell Booster Pro coverage in your building? Nothing. The following device types automatically connect to the network when they are inside the 5G Cell Booster Pro coverage range:

- AT&T 4G and 5G phones, tablets, connectable devices, laptops, and other devices
- Band 14 devices



• AT&T IoT devices, excluding CAT-M, LTE-M, NB-IoT, and RedCap devices

Suppose you leave the building while using a device connected to Cell Booster Pro. Your call continues as you leave the Cell Booster Pro coverage area. You lose connectivity only if no other mobile network is available outside your workplace.

What if the Cell Booster Pro device loses connection with your broadband or stops working for other reasons? Your site's coverage degrades if your Cell Booster Pro device goes offline, so you may experience coverage issues while using your wireless devices inside the Cell Booster Pro coverage area.

## Warranty and support

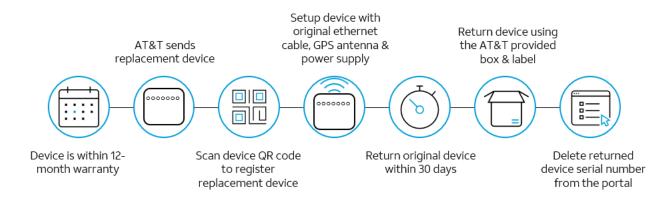
#### **Device warranty process**

The Cell Booster Pro device has a twelve-month warranty effective the date you order the device.

- If you experience an issue with a Cell Booster Pro device, contact the ATT Cell Booster Pro Product support team at (877) 996-7017.
- Be prepared to provide the cellular phone number your Cell Booster Pro admin used when they registered your Cell Booster Pro device.

The Technical Support Expert who answers your call collaborates with you to troubleshoot your issue. If the Technical Support Expert finds that the Cell Booster Pro device is the root cause of the problem, they check the warranty status of your device.

- If your device is out of warranty, the Technical Support Expert can order a new device for you.
- If your device is under warranty, the Technical Support Expert issues a return merchandise order that starts the following process:



Cell Booster Pro warranty exchange process

#### **Cell Booster Pro device warranty**

One-Year Limited Warranty: AT&T warrants to the first retail purchaser of an AT&T Cell Booster Pro device that, should this product or any part be proved defective in materials or workmanship from the date of purchase, as evidenced by AT&T billing records for a period of one (1) year, then it is subject to the terms of this one-year limited warranty. Such defects are 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 on 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, omissions or negligence arising or its agents or sellers be liable for any damages defined in an amount in excess of the purchase price.

Customers who believe they need warranty service should call AT&T Customer Care at (877) 996-7017. A Customer Care representative takes information over the phone to diagnose and remedy the issue. The customer care representative provides instructions on returning the device for repair or replacement where the warranty service applies.

#### **Contacting AT&T for support**

AT&T's Business Mobility & Technical Support team is available 24x7 to your Cell Booster Pro administrators and technical support team. Contact the AT&T support team at (877) 996-7017. Please share the following information with the Cell Booster Pro Product support expert who answers your call:

- Please provide the cellular phone number your Cell Booster Pro admin used when they registered your device.
- The colors of each LED status indicator on the front of the Cell Booster Pro device
- Any information you can share about when you noticed the issue

**Changes your business makes to its internet firewall settings** may block Cell Booster Pro's connectivity to your broadband.

- The AT&T Cell Booster Pro support team cannot see or change your internet firewall settings.
- Before contacting support, review the information in this document's <u>Appendix C: Activation troubleshooting</u> <u>and firewall updates</u> to make necessary changes to your firewall settings.

Because of the wide variety of network configurations, AT&T recommends consultation with a network specialist, router manufacturer, or internet service provider to answer specific network setup questions.

AT&T cannot update the firewall settings for your internal network.

## Security

5G Cell Booster Pro uses industry-standard encryption techniques and algorithms, including:

- Advanced Encryption Standard (AES) 128 and 256
- Triple Data Encryption Standard (3DES)
- Commercial algorithms, including RC4 with a minimum equivalent of 128-bit

All traffic between the AT&T 5G Cell Booster Pro and AT&T's secure core network travels within a highly secure Internet Protocol Security (IPSec) tunnel.



The Cell Booster Pro is 889 Compliant to protect National Security by limiting the government's access to "covered" equipment or services manufactured or provided by certain companies or their subsidiaries or affiliates with known ties to the People's Republic of China.

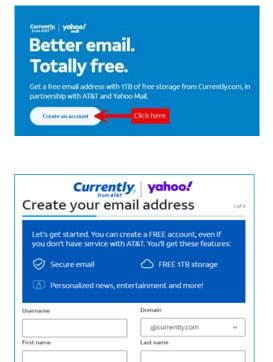
The 5G Cell Booster Pro follows AT&T security policies. The corporate certification is available at <u>https://cso.att.com/ISO27001/index.html</u>.

## Appendix A: Create a login for the Cell Booster portal

#### Create a free AT&T email address for accessing the Cell Booster Portal

You can easily create a free email address so you or your team members can log into the AT&T Cell Booster Portal. The email address works for the mobile app or the web version portal. Follow these steps to create your Cell Booster Pro login credentials:

1. <u>Click this link</u> to create a free AT&T email address for your Cell Booster Pro login.



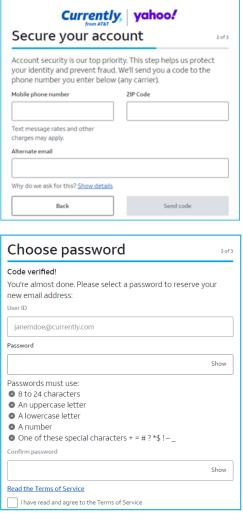
Verify your age: (mm/dd/yyyy)
mm/dd/yyyy

2. Create your email account by inputting the required information.



 Add the required information and select Send Code. Verify the numeric code AT&T sends to your mobile phone.

4. Create a password and then read and accept the Terms of Service for the new email account.



After creating your username and password, open the Cell Booster Pro web portal or mobile app, tap myAT&T, and log in with the email login you created.

## **Appendix B: Broadband requirements**

To maximize the 5G Cell Booster Pro network performance, we recommend that your broadband meets or exceeds these bandwidths:

<b>Recommended</b>	<b>Recommended</b>
broadband downlink	broadband uplink
1 GB or higher	100 Mbps or higher

The number of 5G Cell Booster Pro devices, your site's maximum broadband speed, and the number of simultaneous user sessions plus the session type (voice, data, streaming) will influence the 5G Cell Booster Pro performance.

At a minimum, your broadband must at least meet these bandwidth standards for 5G Cell Booster Pro to activate and provide network coverage to your location:

<b>Minimum</b>	<b>Minimum</b>
broadband downlink	broadband uplink
100 Mbps	25Mbps

The number of 5G Cell Booster Pro devices, your site's maximum broadband speed, and the number of simultaneous user sessions plus the session type (voice, data, streaming) will influence the 5G Cell Booster Pro performance.



Uncertain if your broadband meets the recommended or minimum standards for 5G Cell Booster Pro? <u>Click this link</u> to run a speed test for your current in-building broadband.

## Appendix C: Activation troubleshooting and firewall updates

#### Initial broadband transport troubleshooting

- 1. Confirm a tight ethernet cable connection between the Cell Booster Pro device and the internet gateway/router.
- 2. Power off and then power on the internet gateway. Then, power off and power on the Cell Booster Pro device.
- 3. If your configuration is internet gateway/router + ISP modem:
  - a. Connect the ethernet cable directly to the port on the ISP model
  - b. This step helps you isolate whether the internet gateway/router is causing the connectivity issues
  - c. If this resolves the issue, check settings or ports to find the connectivity issue with your internet gateway/router.

**If connectivity issues persist**, confirm that your internet Gateway/Router has the following settings and update custom settings as follows:

- 1. DHCP is on
  - a. Cell Booster Pro data routing does not support static IP. For sites requiring static assignment of an IP address, use MAC binding and static DHCP reservation
- 2. MTU size is set to 1500 or higher
- 3. MAC address filtering is either turned off or allows the MAC address of the Cell Booster Pro device
- 4. IPSec Pass-Through is enabled
- 5. Block fragmented packets are off
- 6. If using multiple routers, the Cell Booster Pro device must connect to the first router connected to the broadband modem.
- 7. Disable NAT in the router or the modem when the following conditions exist:
  - a. The Cell Booster Pro device connects to a router connected to a modem <u>AND</u>
  - b. The router and the modem are NAT-enabled

Because of the wide variety of network configurations, AT&T recommends consultation with a network specialist, router manufacturer, or internet service provider to answer specific network setup questions.

AT&T cannot update the firewall settings for your internal network.

#### Firewalls and UDP ports troubleshooting

If the "Internet" LED on the front of the Cell Booster Pro device is flashing or solid orange, check that the following ports are open if your network has a firewall.

- 1. The following UDP ports need to be open for Cell Booster Pro to make inbound and outbound connections:
- 2. UDP ports 123, 500, 4500, 33434, 33435, 33436

#### IP address pass-through updates for your firewall

If the local network has a firewall that accepts traffic from or passes traffic to specific IP addresses, be sure you add the addresses in the following table to your firewall settings:

• It may be helpful to perform a packet trace of messaging between the Cell Booster Pro device and the AT&T network to add in troubleshooting.

#### NTP IP addresses

✓	IP Address	Port
	216.239.35.8	UDP 123
	216.239.35.12	UDP 123
	129.134.25.123	UDP 123
	17.253.4.125	UDP 123

#### IPSec IP addresses

✓	I.P. Address	Port	Protocol
	12.230.208.141	UDP 500, 4500, 33434, 33435, 33436	UDP
	12.230.208.142	UDP 500, 4500, 33434, 33435, 33436	UDP
	12.230.208.205	UDP 500, 4500, 33434, 33435, 33436	UDP
	12.230.208.61	UDP 500, 4500, 33434, 33435, 33436	UDP
	12.230.208.62	UDP 500, 4500, 33434, 33435, 33436	UDP
	12.230.208.77	UDP 500, 4500, 33434, 33435, 33436	UDP
	12.230.208.78	UDP 500, 4500, 33434, 33435, 33436	UDP
	12.230.209.12	UDP 500, 4500	UDP
	12.230.209.13	UDP 500, 4500, 33434, 33435, 33436	UDP
	12.230.209.14	UDP 500, 4500, 33434, 33435, 33436	UDP
	12.230.209.157	UDP 500, 4500, 33434, 33435, 33436	UDP
	12.230.209.158	UDP 500, 4500, 33434, 33435, 33436	UDP
	12.230.209.221	UDP 500, 4500, 33434, 33435, 33436	UDP
	12.230.209.222	UDP 500, 4500, 33434, 33435, 33436	UDP
	12.230.209.76	UDP 500,4500, 33434 thru 33450	UDP
	12.230.209.77	UDP 500, 4500, 33434, 33435, 33436	UDP
	12.230.209.78	UDP 500, 4500, 33434, 33435, 33436	UDP
	107.122.134.64/26	UDP 500, 4500, 33434 thru 33436	UDP and/or ESP
	107.122.135.64/26	UDP 500, 4500, 33434, 33435, 33436	UDP and/or ESP
	107.122.136.64/26	UDP 500, 4500, 33434, 33435, 33436	UDP and/or ESP
	166.190.21.64/26	UDP 500, 4500, 33434, 33435, 33436	UDP and/or ESP
	166.192.42.64/26	UDP 500, 4500, 33434, 33435, 33436	UDP and/or ESP
	166.192.80.64/26	UDP 500, 4500, 33434, 33435, 33436	UDP and/or ESP
	166.192.81.64/26	UDP 500, 4500, 33434, 33435, 33436	UDP and/or ESP

✓	I.P. Address	Port	Protocol
	166.194.142.61/26	UDP 500, 4500, 33434 thru 33450	UDP and/or ESP
	166.198.56.64/26	UDP 500, 4500, 33434, 33435, 33436	UDP and/or ESP
	166.198.57.64/26	UDP 500, 4500, 33434, 33435, 33436	UDP and/or ESP
	166.198.58.64/26	UDP 500, 4500, 33434, 33435, 33436	UDP and/or ESP
	166.198.59.64/26	UDP 500, 4500, 33434, 33435, 33436	UDP and/or ESP
	108.144.26.64/26	UDP 500, 4500, 33434, 33435, 33436	UDP and/or ESP

#### IPSec FQDNs

✓	Fully Qualified Domain Name	
	boostrap-ipsecrouter1.ngfemto.wireless.att.com	
	initial-ipsecrouter.ngfemto.wireless.att.com	
	crtn-oam.ngfemto.wireless.att.com	
	crtn-4gb.ngfemto.wireless.att.com	
	hzwd-oam.ngfemto.wireless.att.com	
	hzwd-4gb.ngfemto.wireless.att.com	
	clmb-oam.ngfemto.wireless.att.com	
	clmb-4gb.negfemto.wireless.att.com	
	rcpk-oam.ngfemto.wireless.att.com	
	rcpk-4gb.ngfemto.wireless.att.com	
	dctr-oam.ngfemto.wireless.att.com	
	dctr-4gb.ngfemto.wireless.att.com	
	lkmr-oam.ngfemto.wireless.att.com	
	lkmr-4gb.ngfemto.wireless.att.com	
	snap-oam.ngfemto.wireless.att.com	
	snap-4gb.ngfemto.wireless.att.com	
	sntd-oam.ngfemto.wireless.att.com	
	sntd-4gb.ngfemto.wireless.att.com	
	akr3.oam.ngfemto.wireless.att.com	
	akr3-4gb.ngfemto.wireless.att.com	
	all4-oam.ngfemto.wireless.att.com	
	all4-4gb.ngfemto.wireless.att.com	
	atn3.oam.ngfemto.wireless.att.com	
	atn3.4gb.ngfemto.wireless.att.com	
	brp1-oam.ngfemto.wireless.att.com	
	brp1-4gb.ngfemto.wireless.att.com	
	chg3.oam.ngfemto.wireless.att.com	



✓	Fully Qualified Domain Name
	chg3.4gb.ngfemto.wireless.att.com
	fro2-oam.ngfemto.wireless.att.com
	fro2-4gb.ngfemto.wireless.att.com
	hst5-oam.ngfemto.wireless.att.com
	hst5-4gb.ngfemto.wireless.att.com
	isa4-oam.ngfemto.wireless.att.com
	isa4-4gb.ngfemto.wireless.att.com
	scr1-oam.ngfemto.wireless.att.com
	scr1-4gb.ngfemto.wireless.att.com
	wah2-oam.ngfemto.wireless.att.com
	wah2-4gb.ngfemto.wireless.att.com
	wnd4-oam.ngfemto.wireless.att.com
	wnd4-4gb.ngfemto.wireless.att.com

#### Preliminary troubleshooting steps

The following checkpoints apply regardless of the number of Cell Booster Pro devices at your site.

#### LED indicator lights and troubleshooting

The LED indicator lights on the front of the 5G Cell Booster Pro device provide status from left to right for:

- Power
- Internet
- GPS
- LTE 4G C1
- LTE 4G C2
- 5G

Solid white LEDs show success. Each LED can display one of the following states:

- Off (no light displayed)
- Flashing orange
- Solid orange
- Flashing white
- Solid white

#### **Troubleshooting notes:**

- **Power cycle the device**: turn the power off for 10 minutes and then turn the device on. Please wait at least 15 minutes to allow the device to cycle through its processes and gain network connectivity,
- **Check portal device status page**: select the device in the Cell Booster portal and choose **Device status** to see available troubleshooting tips for the LED in question.
- Call AT&T Support: call AT&T's Business Mobility Technical Support at (877) 996-7017 if the issue persists.

#### Step 1: Check the Power LED

Power LED	Other LEDs	Explanation	Action
Off	Off	All LEDs are off when there is no power to the CBP device	<ul> <li>Check the power cord connection and whether the device is receiving power</li> <li>Power cycle the device</li> </ul>
Flashing orange	Flashing orange	A hardware fault exists on the CBP device	<ul> <li>Check that the ambient temperature is within the stated operating range</li> <li>Call AT&amp;T Support</li> </ul>
Solid orange	Solid orange	A CBP hardware fault is degrading the service	Call AT&T Support
Flashing white	Any/off	CBP device has issues connecting to the AT&T Network	Review all local transport     requirements in <u>Appendix B</u>
Solid white		CBP device power is on	Continue to step 2

The Power LED shows the overall status of the Cell Booster Pro (CBP) device.

#### Step 2: Check the Internet LED

Power LED	Explanation	Action
Off	CBP device is going through a software download and initialization	Check the power cord connection and whether the device is receiving power
Flashing orange	CBP device has issues connecting to the AT&T Network	<ul> <li>Review local transport requirements in <u>Appendix B</u></li> <li>Power cycle the device</li> </ul>
Solid orange	CBP device has issues connecting to the AT&T Network	<ul> <li>Review local transport requirements in <u>Appendix B</u></li> <li>Power cycle the device</li> </ul>
Flashing white	Timing or CBP device software download issues (depending on the status of other LEDs)	<ul> <li>Check the portal device status page</li> <li>Power cycle the device</li> <li>Contact AT&amp;T Support</li> </ul>
Solid white	CBP device can complete the activation process as it has an active connection to the AT&T network	Continue to step 3

#### Step 3: Check the Status LED

Power LED	Explanation	Action
Off	CBP device is going through the activation process	• Check the power cord connection and whether the device is receiving power
Flashing orange	A potential fault detected in the activation sequence	
Solid orange	A potential fault detected in the activation sequence	Check the portal device status page
Flashing white	No capacity exists for more user connections <u>OR</u>	<ul><li>Power cycle the device</li><li>Contact AT&amp;T Support</li></ul>
	CBP device is having issues connecting to the AT&T Network	



Power LED	Explanation	Action
Solid white	CBP device is progressing through the	See Step 4
	activation process	

#### Step 4: Check the GPS LED

Power LED	Explanation	Action
Off	CBP device is going through the activation process AND/OR obtained the GPS signal	Check the power cord connection and whether the device is receiving power
Flashing white	CBP device is searching for a GPS signal	<ul> <li>Verify that the GPS antenna is connected to the Cell Booster Pro device</li> <li>Verify that the GPS antenna is positioned in an exterior window</li> </ul>
Solid orange	CBP device activation process experienced a fault	<ul><li>Power cycle the device</li><li>Contact AT&amp;T support</li></ul>

#### Step 5: Check the LTE 4G C1, LTE 4G C2 or 5G LED

Power LED	Explanation	Action
Off	CBP device is going through the activation process AND/OR obtained the GPS signal	Check the power cord connection and whether the device is receiving power
Flashing orange	A potential fault detected in the activation process	<ul> <li>Check the portal device status page</li> <li>Power cycle the device</li> </ul>
Solid orange	A potential fault detected in the activation process	<ul><li>Contact AT&amp;T Support</li></ul>
Flashing white	LED session in progress. The LED flashes if there is 1 active session on the device	No action
Solid white	CBP device is ready for service	No action

## Appendix D: Cell Booster Pro service troubleshooting guide

If you cannot make a voice call or use data applications with a device within the coverage area of a Cell Booster Pro device, follow these troubleshooting steps.

#### Multiple Cell Booster Pros at a single site

If you experience poor voice quality, slow data speeds, or dropped calls at a site with multiple Cell Booster Pro devices:

- You may have interference between devices.
  - Options to mitigate the interference between devices: increase the physical distance between the devices or shield them from each other with a physical barrier
  - Recommended distance between two Cell Booster Pro devices: 50 feet
- If you experience poor voice quality, check that your broadband bandwidth has the recommended bandwidth.

#### Preliminary steps for one or more Cell Booster Pro devices

- 1. Select the device in the Cell Booster Pro portal and select **Check Status** to see the device's real-time status for helpful hints and troubleshooting.
- 2. Power down the Cell Booster Pro device and wait 10 minutes.
- 3. Power up the Cell Booster Pro device and wait at least 15 minutes.
- 4. Use an AT&T mobile device to assess voice call quality and data throughput.

- a. Be sure the user list includes the device's cellular phone number if you configured Cell Booster Pro as "closed" mode.
- 5. Check that the broadband router is working correctly.
- 6. Ensure you have administrative access to the router, Cell Booster Pro device, and portal.

#### **Broadband requirements**

Verify that the site's broadband meets or exceeds the local transport requirements specified in <u>Appendix B: Broadband</u> <u>transport requirements</u>. You may need to adjust specific router parameters.

## Appendix E: FAQ's

#### What if a customer does not have AT&T wireless online credentials to log into the portal?

- Customers without AT&T wireless online credentials can create a free email account and use that username and password to log into the Cell Booster Pro app or portal.
- Follow these instructions to set up your username and password quickly.
- To log into the Cell Booster Pro portal with your new credentials, tap **Personal or Small Business** and input your new username and password.

#### How long does it take for the AT&T Cell Booster Pro to activate?

- Activating a Cell Booster Pro device may require up to 90 minutes following equipment setup.
- Your 5G Cell Booster Pro administrator will receive a service activation email.
- You can also verify device status within the Cell Booster Pro portal.

#### Does 5G Cell Booster Pro support IoT devices?

• AT&T IoT devices can use 5G Cell Booster Pro, except for devices with Cat-M, LTM-M, NB-IoT, and Red Cap SIMs.

#### Are there accessories available for 5G Cell Booster Pro?

- Each 5G Cell Booster Pro includes a CAT6 ethernet cable, an AC power supply, and a GPS antenna.
- Optional accessories available from AT&T:
  - Cell Booster Pro GPS 65' extension cable
  - Cell Booster Pro power over ethernet++ splitter (PoE splitter)
  - Cell Booster Pro desk stand
- Replacement accessories available from AT&T:
  - Cell Booster Pro mounting kit
  - Cell Booster Pro GPS antenna
  - Cell Booster Pro power supply

#### Are there more details about the PoE++ Splitter for the 5G Cell Booster Pro?

- A PoE++ splitter is an optional accessory that is necessary only if the location for the 5G Cell Booster Pro device does not have accessible AC power.
- In that case, a PoE++ splitter for each 5G Cell Booster Pro that needs power over ethernet.
- A PoE power source is necessary if your router or switch does not support PoE++.

#### What guidelines should we follow for where we place our 5G Cell Booster Pro devices?

- 1. Place at least 50 feet of space between 5G Cell Booster Pro devices so they do not interfere with each other.
- 2. Purchase the desk stand accessory for any 5G Cell Booster Pro device you position on a tabletop surface. The device performs better when upright and not lying flat on the tabletop.
- 3. AT&T installers can mount your devices up to 10 feet high on a wall. The field technician cannot install a device over 10 feet above the floor.



#### Can non-business customers purchase 5G Cell Booster Pro for use in their homes or other locations?

- AT&T 5G Cell Booster Pro is available to any AT&T customer, person, or business wishing to become an AT&T customer for a location where AT&T provides 5G C-band or 4G coverage.
- Non-business customers can order 5G Cell Booster Pro in an AT&T retail store.

#### Who do we contact if we need support for our 5G Cell Booster Pro device and service?

• Call the Cell Booster Pro support team at (877) 996-7017.

#### Does the 5G Cell Booster Pro meet the intrinsic standard?

• The 5G Cell Booster Pro is UL certified, which includes Intrinsic Safe standards.

#### Does the 5G Cell Booster Pro signal propagate evenly over 360 degrees, or is it directional?

• The 5G Cell Booster Pro signal is omnidirectional, providing 360 degrees of signal.

#### Can multiple people log into our Cell Booster Pro portal account?

- The Cell Booster Pro portal allows you to have multiple Cell Booster Pro administrators.
  - Any Cell Booster Portal admin can add new or remove existing admins.
    - Select a 5G Cell Booster Pro device registered in your portal.
    - Scroll down the page and select Admin list to see existing administrators.
    - Tap + to add a new admin and select an admin's name to remove their portal access.

www.att.com/cellboosterpro



