

Here are a few free and paid options that are available:

### Femtocells

Like Wi-Fi Calling, femtocells depend on having broadband landline internet with a minimum speed of 1.5 Mbps download & 256Kbps upload to have any decent results. In short, they convert landline internet to cellular signals. While femtocell is the proper & broad term, each carrier likes to brand their own femtocell names. So you'll see things like AT&T Microcell, Verizon Network Extender, T-Mobile Personal CellSpot or Sprint Airave or Magicbox. But they're all femtocells.

These devices can range from \$100 to \$300 with a possible monthly subscription service on top of your landline internet bill. If you're a long-time subscriber with continual reception problems, contacting your carrier may result in a free or discounted femtocell. Consider **AT&T Microcell, Verizon Network Extender, T-Mobile Personal CellSpot, Sprint Airave or Magicbox.**

The downside is that carriers are moving away from femtocells, because they'd rather have customers use Wi-Fi calling. That means no more discounts or possibly devices in the near future since carriers don't want to eat the cost unless it's worth the investment.

**Pros:** Possibly free or discounted if you can haggle for it.

**Cons:** Wi-Fi Calling a better (and free) option. No Wi-Fi service means no femtocell will work.

### Change Network Carriers

If your phone is fully paid for or past its two-year contract, it may be time to jump ship and find a carrier better suited to fulfill your mobile needs. And most carriers are eager to get customers to switch, so you might be able to get a new or highly discounted smartphone or bill.

We recommend using Open Signal to research carrier service heatmap for your location. Search by ZIP code and compare network rankings in your area. That information along with understanding cell tower location, should give you a much better idea about the quality of your carrier's and competition's services. There are a lot of variables to consider.

Verizon might have more 4G coverage nationally, but if you live near an AT&T cell tower, you might have to reconsider. Perhaps talk and text are more important to you than internet data, so T-Mobile's or Sprint's 3G plan might be more cost effective.

### Clear Out Obstructions

When there's a clear line of sight between your cell phone and cell tower, it's easy for the two to hear each other. But when there are objects and obstructions in between, it gets a little harder for the two to communicate. There are about 5 main causes of poor cellular signal:

- *Cell tower distance (of course)*
- *External interference (trees, hills, mountains, valleys, metal structures & high buildings)*
- *Building material & construction (metal, concrete, thick walls, energy-efficient installations, etc.)*
- *Internal interference (electronics, metal objects, anything magnetic or electronic can interfere with cell waves)*
- *Weather*

Some simple tips that help get better reception:

- *Move outside or get near a window*
- *Avoid standing under or near tall structures*
- *Reduce interior clutter*
- *Get higher. Usually the second floor of the home gets better signal*

### Don't Block Your Cell Phone Antenna

With most smartphones today, the antenna is designed to be tucked inside the phone. This is great for cosmetic reasons but difficult for increased reception, because those interior antennas still need to do the same job.

By holding your phone in landscape position (sideways), your hands may be effectively blocking your antenna from the cell tower. Although the newer smartphones had designs to combat this problem, a smartphone in a rugged case and gripped with both hands can occasionally give you the no-signal burp.

To avoid such antenna problems, try holding your phone in an upright position with your antenna free of a blockage, it should help increase the flow of signal.



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## How to Improve Your Cell Phone Signal

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### Improving Cell Service in Your Home

Over 72% of Americans suffer from dropped calls & slow internet connections. We demand more from our cell phones, smartphones, and wireless devices more than ever. Talk, text, internet, social media, email, apps, video, audio, and personal assistance. Nothing is more essential to your cellphone than cellular reception.

Here are some of the ways poor service affects us:

- *Dropped calls*
- *Poor voice quality*
- *Slow internet connections*
- *Stuck text messages & email*
- *Still-connecting or endless loading screens*

Despite your situation, there are methods to improve your cellular coverage.

Tel: 480-348-3690

# Options for Improving Your Cell Phone Signal

## Locate Your Nearest Cell Phone Tower

Knowing the closest cell phone tower location helps tremendously when it comes to getting the best reception: the closer your phone is to the tower, the better the signal strength.

There are several ways to locate the nearest cell tower:

### Websites (Good):

**AntennaSearch.com:** This website contains a lot of data on cell tower location, so you may need a little patience to mine out the data you need.

**CellReception.com:** All you need is your zip code or city and state to find cell tower locations by the major carriers (Verizon, AT&T, Sprint, & T-Mobile) and read reviews and ratings from users like yourself.

**OpenSignal.com:** Open Signal ranks in the top 4 carriers and their signal with a cell phone coverage map and then further compares your area cellular coverage nationwide and even worldwide. You can also refine the type of cell phone signal by 2G, 3G, and 4G.

### Apps (Better):

**OpenSignal** (Recommended): OpenSignal features a compass that points in the direction of your carrier's cell tower.

## RootMetrics' Cell Phone Coverage Map

### DIY (Best):

Your smartphone is a great way to find signal strength. Cell phone signals are measured in dBm (decibels). They're basically radio waves, the AM/FM kind. All cellular devices operate within this standard: -50 dB to -120 dBm signal level. -50 dBm is considered full strength (full bars). -120 dBm is considered a dead zone.

- The number of bars on your phone is subjective. But dBm readings are not subjective.
  1. Find dBm readings on your phone.
  2. Walk around your house.
  3. The number closest to -50 dBm is where you get your best signal

## How to Access Your dBm Signal:

### *For iPhone Users*

This method is outdated on iOS 11 (on any iPhone) and also on iPhone 7 & 7 Plus models. For other versions of iOS (10 & below) and iPhones this method will still work. As of February 2018, there is no method to see dBm values on iOS 11 because Apple has decided to keep it hidden.

1. Go into Phone Mode and Dial this code \*3001#12345##\*
2. You'll enter Field Test Mode
3. Drag down your notifications bar and you will see your dB reading in the left-hand corner.

### *For Android Users*

1. Access Settings
2. Then General
3. Go to About Phone
4. Network or Status
5. You should see your dB Value

Generally anything from -50 dBm to -95 dBm is considered good working signal. From -95 dBm to -120 dBm, that's the thin margin where you get spotty service to a complete dead zone.

## Use Your Wi-Fi Network

Wi-Fi Calling allows using your broadband landline internet service provider (ISP) to make calls and also connect to the web. As of October 2018, all major carriers such as AT&T, Verizon, T-Mobile, and Sprint support wi-fi calling on most newer smartphones such as Apple iPhone, Samsung Galaxy, Google Pixel, LG phones, and other iOS & Android devices. If you already have landline internet, connecting your Wi-Fi compatible cell phone should be able to help maintain a steady connection. Keep in mind, if your Wi-Fi internet speeds are spotty or horrible to begin with, then it won't be much help either, because now you have another device hogging your bandwidth.

**Pros:** Practically free method if you have landline internet.

**Cons:** Zero use if you have bad Wi-Fi or no landline internet service.

## Keep Your Battery Full

Connecting to a cell tower takes a constant supply of power, so if you're low on battery, your phone might not have enough juice to find a signal. That's why many smartphones have a battery-saving mode.

*The following should help conserve battery power:*

- Turn off hardware options like Bluetooth and NFC when not in use.
- Lower screen brightness.
- Close unnecessary & unused apps working in the background.
- Turn off push notifications.
- Update to the latest firmware.
- Keep phone away from extreme temperatures.

If you still find your cell phone lacking power before the end of the day, you might try a portable battery charger or case.